DOCUMENT RESUME

ED 157 555 IR 006 321

AUTHOR	Seeger, Thomas, Ed.; Wersig, Gernot, Ed.
TITLE	Common Features of Training of Information Specialists.
INSTITUTION	International Federation for Documentation, The Hague (Netherlands). Committee on Education and Training.
REPORT NO	FID/ET Occasional Paper 3
PUB DATE	77
NOTE	105p.; Proceedings of the FID/ET Technical Meeting, June 8-11, 1976 at IRANOR, Madrid, Spain
EDRS PRICE	MF-$0.83 HC-$6.01 Plus Postage.
DESCRIPTORS	*Conferences; Documentation; *Educational Needs; Foreign Countries; *Librarians; *Library Education; Professional Education; *Professional Training; Speeches
IDENTIFIERS	*Information Specialists

ABSTRACT

This is a collection of 14 papers presented at a professional association conference to explore the possibilities of how the Federation Internationale de Documentation (FID) could improve the education and training of information specialists. The subject was approached from four viewpoints: (1) professional aspects of education and training; (2) user training; (3) education and training in different countries; and (4) education and training in Spain. Topics of papers include: "The Project for Professional Categories and Common Studies at Different Kinds of Schools and Faculties for Information Officers, Librarians, and Archivists"; "Information Consciousness and Information Propaganda"; "Turdok's Experience on Training of Information Specialists"; and "Notes on the Information Specialist Training at the Faculty of Information Sciences in Madrid Complutense University." Lists of references and conference participants are appended. (JPF)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED157555

FEDERATION INTERNATIONALE DE DOCUMENTATION (FID)
– Study Committee Education and Training (FID/ET) –

FID/ET Occasional Paper 3

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

COMMON FEATURES OF TRAINING OF INFORMATION SPECIALISTS

Proceedings of the FID/ET Technical Meeting
8 – 11 June 1976 at IRANOR, Madrid, Spain

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Gernot Wersig

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

Edited by
Thomas Seeger
Gernot Wersig

Deutsche Gesellschaft für Dokumentation (DGD)
Frankfurt am Main 1977

IR006321

Common features of training of information specialists

Proceedings of the FID/ET Technical Meeting 8-11 June 1976 at IRANOR, Madrid, Spain

Edited by Thomas Seeger and Gernot Wersig

End of Edition: December 1976

Published by: Deutsche Gesellschaft für Dokumentation (DGD)
Westendplatz 29
D – 6000 Frankfurt am Main

in connection with

FID/ET Secretariat
c/o Leitstelle Politische Dokumentation
an der Freien Universität Berlin
Paulinenstraße 22
D – 1000 Berlin 45

Printed by: Leitstelle Politische Dokumentation
an der Freien Universität Berlin
Technical Department
Paulinenstraße 22
D – 1000 Berlin 45

CONTENTS

p.

A. General Remarks 1

Gernot Wersig: Introduction to the meeting and the role of FID/ET 1

Thomas Seeger: Problems of forecasting educational needs in information and documentation 5

B. Professional aspects of education and training 25

Emilia Curras: Project for professional categories and common studies at different kinds of schools and faculties for information officers, librarians, and archivists 25

Janos Szentmihalyi: The development of the profession and its influence on the training of librarians and information specialists 32

Rosa Ricart-Ribera: Librarians as documentalists 37

Jean Meyriat: Acerca de la problematica de un programa basico (trunco común de enseñanza) para le formación de professionalistas de la información; documentalistas, bibliotecarios, informalistas etc. 42

C. User Training 43

Jan Droog: An introduction to the education of the user of informations 43

Aida Mendez-Miaja: The education of the documentation user 44

Gernot Wersig: Information consciousness and information propaganda 46

D. Education and training in different countries 58

Eser Erkmen: Türdok's experience on training of information specialists 58

Rafael Rodriguez Delgado: Training in documentation and documentary informatics for Hispanoamerica 66

Thomas Seeger/Gernot Wersig: The study of information science at the Free University of Berlin, FRG 69

p.

Jan Droog: Problems of training information specialists in the Netherlands 73

Jerzy Steszenko: Education and training of personnel in the sphere of library science and scientific information in Poland: The present state and development ideas 77

E. Education and Training in Spain 84

David Torra Ferrer: (Title and paper not submitted) 84

José Lopez Yepes: Notes on the information specialist training at the Faculty of information sciences in Madrid Complutense University 85

List of participants 100

A. General Remarks

Gernot Wersig
Freie Universität Berlin

INTRODUCTION TO THE MEETING AND THE ROLE OF FID/ET

FID and FID/ET live in a changing world. Whereas in former times non-governmental organizations like FID could play a very important role in the international scene by initiating necessary projects and activities. This has been changed considerably during the last decade by the growth of activities of governmental organizations like UNESCO, OECD etc.

This has led to a serious discussion about the possible role of a non-governmental organization like FID which in former times undoubtedly has taken over responsibility in fields where now governmental organizations are more and more active. This discussion led at least to one alternative: Instead of performing projects which much better (and with more funds) could be performed by governmental organizations a society like FID could act as a professional society in cooperation with other international or national professional societies. This new philosophy ended up in a movement within FID to explore the possibilities how FID could help to improve the situation of the individual professional and the profession as a whole.

In this context FID/ET as the responsible committee for one of the core areas of professional interest, education and training, tried to find out how a study committee of this kind could act in this respect. The following fields of activity have been specified to serve this purpose:

a) Study

A committee of FID is supposed to be a collection of highly qualified specialists in the respective field. This expertise could be used in some respects to study questions which are not - or not sufficiently - studied by national or international governmental organizations. The committee thus could fill existing gaps or act as a professional conscience for governmental organizations which usually centre their interests more around governmental than professional interests.

b) Consultation

The expertise of a committee of this kind could be used for national or international governmental organizations as a source of consultation. National organizations can find here an occasion to have their work reviewed under international aspects; international governmental organizations may find it useful to have their projects being looked at under a non-governmental aspect reflecting only professional and technical interests.

c) Communication and information

This seems to be the core area of interest of a professional society. Individual experts usually suffer of a lack of information about what is going on in other countries or other places; and they rely on occasions to exchange opinions and viewpoints on current developments to find out where they stand and how other experts review their work under aspects of their individual experiences. For FID/ET so far the following ways of improving international communication and information about education and training in the field of information and documentation have been detected:

- publications as the "normal" way of communicating information to all those who may need it. Platforms within FID available are: FID publications for larger studies,

handbooks etc.; FID/ET Occasional Papers for smaller works which are of interest to the professional public (so far, two volumes have been produced: No. 1 about an experiment on user education in high schools in GDR; No. 2 about future trends in specialization in the information profession), this series is open to all kinds of papers in the field; FID-Journal for articles which may be produced, initiated or influenced by the work of the committee (e.g. the paper of J. Droog to be presented at this Technical Meeting). A plan is under discussion to establish an international newsletter on education and training problems;

- Seminars, Symposia, Workshops, Conferences to assemble education and training experts on an international level to discuss problems of common interests. During its existence FID/ET has organized two large conferences and one seminar (1972 Budapest) with this purpose, a recent plan is to organize a seminar preceeding the FID-Congress 1976 at Mexico City. Other plans are to organize a joint conference with FID/RI concerning the role of information science within the universities. Such conferences should preferably be organized together with interested national professional groupings (like in Mexico City with ASIS Special Interest Group Education and ALEBCI, the Latin American Assoziation of Library and Information Science Schools);
- technical meetings which should provide the opportunity to bring together national and international experts to enable the international experts to study the situation within a national or regional setting more in detail than usual possible (in official meetings and informal talks) and to allow the national experts to talk to people with international experiences.

The idea of such kind of technical meetings which only can be realized by close cooperation between FID/ET and a respective

national professional responsibility is a new one. This meeting in Madrid is the first of its kind and we are very glad to try this new medium here because this area has been to some extent a white spot on our professional maps. We hope that the changing world would change this situation.

Thomas Seeger
Freie Universität Berlin

PROBLEMS OF FORECASTING EDUCATIONAL NEEDS IN INFORMATION AND DOCUMENTATION

Abstract:
First, two different approaches are shown: social demand and manpower approach. Quantitative forecasts often concentrate on supply and demand studies, quantitative forecasting so far developed no specific method. A proposal is made based on the systems approach: definition of information system, analysis of basic parameters influencing the field, forecasting of the factors (e.g. by Delphi technique), fed into a simple prognostic model.

1. Since we are faced within the rapid developments in science, technology, economics, industry and commerce with an accelerating change in requirements of qualification in almost every profession or field of occupation, the necessity of planning future qualification structures for the various professions and specializations and their foreseeable changes caused by further social developments is obvious.

   Fortunately it is undoubted in the field of information and documentation that great efforts should be made to provide our field of occupation with the appropriate number / and types of specializations of information workers now and especially in the future.

   Even the already known studies aiming at an international scope, which are conducted on behalf of UNESCO/19/, OECD/ 1; 30/, FID/34/ and European Communities/15/ emphazise not only the importance and urgency of the personnel problem but accentuate the wide complexity of methodological problems involved in the conduction of reliable forecasts. On

the other hand the authors point out quite clearly that comparable minor efforts have been made to solve these urgent questions by surveying, collecting and analyzing statistical data on which reliable forecastings can be based.

The main problem of man-power planning is to try to ensure that there is a balance concerning the supply of and demand for information workers over a certain period of time both in numbers of qualified personnel and in appropriate levels of obtained qualifications.

This means that in regard to the education and training sphere the system of formal education and training has, in a particular way, to anticipate what the demand of qualification in respect to the quantitative and qualitative output will be at the very moment when the trainees have completed their courses and are trying to obtain posts in the institutions of information and documentation.

Since the different institutions and organizations providing formal education and training are forced to face the problem of over- and underproduction of well trained information personnel/22; 26; 9; 2; 3; 4; 5; 10; 25/; the necessity of scientificially based forecasts of man-power developments occurs.

2. In general two different approaches regarding qualifications are to be distinguished:

   A. Social demand approach which used to be widely spread in the early 60's especially in Anglo-American countries. This approach is based on the idea of laissez-faire, which relies on "civil rights of education" for every individual. According to the individual demands of the citizens, the system of education and training

has the function of fulfilling these demands by making available the necessary capacities. The philosophical background to this approach pays tribute to the esteem of the individual will, and refers to a confidence in the natural order of social processes, which is comparable with the order of market in the theory of economic liberalism.

Referring to our question, this approach means that the individual demand for education and training will be in accordance with the requirements of labour-market-mechanism. But this blind confidence in categories of the natural balance of demand and supply has proved wrong - since we have to observe that legions of highly qualified people are on the dole and the prospectives of getting appropriate posts tend to become less.

B. Manpower-approach, which is fairly new. It tries to shape or, under certain circumstances, to limit structure, scope and amount of the output-capacity of national education systems according to the trend extrapolated by economic demand.

Within this frame two methodological possibilities exist:

a) The demand for qualified personnel is derived from the Gross-National-Product (GNP) by taking into account the general economic development of a given time period, as there are productivity of labour, productivity and efficiency of industry, commerce, public services etc. Then the percentage of different types and levels of trained persons in accordance to different fields, sectors and branches of labour has to be measured and extrapolated into the future according to the economically predicted development.

The general demand for manpower is fixed based on these calculations. From the total amount of manpower demand at a fixed date, the number of active personnel in the profession should be deduced. The additional demand for manpower at a given time can be calculated by substracting the number of personnel in-job from the amount of manpower demanded.

b) The demand for qualified personnel is only loosely connected to the economic structures. The starting point of this modification is the analysis of the relation between number and types of qualified personnel and the total population. Out of this relation, further development in man-power can be derived by extrapolation. As additional influencing parameters, which are able to change the relation between qualified personnel and the total population, politically based motives can be introduced.

As far as we can see, the manpower-approach in general is - as long as nothing else is available - the most reasonable to get at least some idea of what the future of personnel structure will be and to which extent staffing will develop.

The following aspects have been brought up in objection to the manpower approach:

- The manpower approach (implicitly) suggests a direct connection between E + T and the work to be done in a certain position.
  This is - according to our experience - only partially true, because we know that structures of E + T cover only a part of what is actually needed in the continuously changing labour sphere. The result of this process is a misconception between both spheres - and the manpower - approach tends to transfer this historically developed misproportion into the future.
- The manpower approach is, because of its rudimentary economic orientation, not or only partially in the position to

meet the wide complexity of personnel structure, because of the omission of a certain number of qualitative parameters which we think are important for forecasts in this field.

Questions of this kind are

- To which extent - if any - have technological changes an influence on qualification.
- What will be the possible tendencies in the organization, scope and characteristics of the professions and to which extent will the recruitment of specific labour forces be substituted by other professions or qualifications.
- What will be the quality of qualification demanded at a given time and to which extent have borders between different levels and categories of work changed and what must be done within the sphere of education and training to fill these foreseeable gaps.

On the other hand, education is far more - especially on higher levels - than the accumulation of skills and abilities for a future job or employment. There are at least some extra-functional components to be considered which should be covered by some kind of education: within the formal education, the individual should gain - in addition to the qualifications for the job (the functional aspect of education) - the ability to acquire the right understanding of what is surrounding him, he should be able to develop a political consciousness and he should learn to direct his behaviour in order to play an active role through influencing his working field and to extend this to political and social structures.

Because of the strictly economic orientation of the man-power approach, most forecast studies analyze merely the future demands for personnel out of the statements of potential employers. This method neglects the fact, that between the demands of employees and the demands of the future labour-market there is necesserily quite a gap.

Within the range of already existing manpower-forecasts in the field of information and documentation a distinction must be made between qualitative and quantitative oriented forecasting studies.

A. Quantitative forecasts

The overwhelming majority of quantitative studies has been conducted in Anglo-American countries; U.K. (11,14) and U.S.A. (18,23). They tend to be general supply and demand studies based on existing descriptive statistical data and projecting future trends on mathematical models.

The model below on which the majority of quantitative forecasts rely, is a fairly simple one (9).

The starting-point is a comparison of two elements on the SUPPLY-side (i.e. the sphere of human resources including education and training) and the DEMAND-side (which can be described as the labour-market). Both sides influence each other.

SUPPLY	DEMAND
Existing stock of personnel	Existing posts
+ Recruits in Training	+ Any increases to cover existing needs
+ Re-entries into profession	+ New posts for growth
- Wastage-rate; i.e. retired; occupation changes etc.	- Reductions for improvements of effective utilization (Rationalization-effects)
= Net supply	= Net demand
	- Net supply
	Recruitment and Training requirements

The presupposition for conducting predictions on this basis is the existence of a considerable body of factual data concerning the structure of the professions. Statistical data to feed the manpower-model have been collected for many years in the U.K.

- Since 1969, seminarial surveys of students completing courses in relation to post-finding (2-5, 10, 25) have been made. The results of these surveys show (22) that over a period of 5 years the degree of students successful in obtaining posts within 2 months after completing courses is steadily declining. It seems that with the increase of total output from schools, the success rate of obtaining posts immidiately after finishing courses is falling. On the other hand, we have to take into consideration that the level of qualifications according to the total amount of output scored has changed considerably within the last 5 years. This implies the danger of overproduction of qualified personnel in general and shows that the demand for personnel differs from level to level.
- In 1970, the Department of Education and Science, London, set up a committee in library statistics which is in charge of continuously collecting data on library and information-work (12,13). In respect to the manpower-problem, a nation-wide macro-census was conducted, which attempted to be an overall statistical survey of all institutions and organizations related to the information field. The primary purpose of these censuses is to give a picture which is as accurate as possible of the employment situation at a fixed date per year.

Beyond these surveys stating the actual situation of employment in the library and information field, several major attempts have been made to forecast man-power requirements on a long term basis.

- The OSTI survey of staff engaged in scientific and technical information work in 1965 (14). Based on the probable growth of university faculties of engineering, technology and science in the U.K., the management of information institutions were

asked to give estimatee of their staff requirements for 1970. The analyzed figures show that between 1960 and 1965 a rise of approximately 60 % in numbers of employees took place. Furthermore, it was estimated that between 1965-70 a rise of 40 % in the total amount of personnel serving in information institutions is likely to occur. Unfortunately these figures could not be confirmed (27).

- The Library Advisory Council's Report (LAC) on the supply and training of librarians. 1968/27.
  The LAC-report used a variety of statistical data from different sources to estimate the future demand of qualified librarians within a certain time-period. Surprisingly the prediction of an annual demand of not more than 1.400 qualified librarians was more or less matched by events. But the report greatly underestimates the proportion of graduates of various types (e.g. the number of post-graduates completing courses was twice as high as predicted).

Similar in their approach to the OSTI-survey are quantitative forecastings conducted on behalf of the American Library Association (23) and the study conducted by Gupta et al. (18). Both studies tried to analyze the need of professionals in librarianship and information work at different levels of education, by questioning a lay number of employers in different sectors (i.e. industry, public services etc.) about the actual working situation and the prospects they see for the future.

The purpose of these studies of manpower needs in information science was

- to gather data on a wide scala to help assess the utilization patterns of professionals employed in information-related activities,
- to make reasonable projections of present as well as future demands of personnel trained in information science programmes at several levels of higher education.

The study conducted by Blum and Frenzel (15) on behalf of the European Communities followed a different path.

The main objective is to give an approximate quantitative forecast of the needs for information science specialists at different levels, in the EG member states in ten years. This forecast tends to base its predictions on existing and available documents and data as well as further information and statistics supplied by experts of the Member States.

Based on a comparable description of different levels of information workers, the statistics of data of every country were collected and rearranged according to the common definition developed for all Member States.

With these prearranged materials, experts were asked to state whether the manpower development in their country were realistic and what future prosepcts they see for their countries.

The results were projected into a mathematical model of extrapolation and the issued figures of manpower-demands for the next ten years show an extremely wide range between the maximum and minimum level.
Obviously this kind of estimate is not very reliable - since it has been proved that neither the predicted number nor quality of staff was matched by events.

As Perry (27) pointed out, this kind of methods tends to be rather a "guesstimate" than an estimate. However, the failure to obtain adequate response to requests for manpower forecasts is not surprising - even if one relies solely on estimates of potential employers - because the economic, social, cultural conditions etc. of any country vary greatly from year to year and manpower requirements are entirely dependent upon these conditions.

Furthermore quantitative based manpower forecasts differ methodologically because of various reasons: (18)

- different data to be based on
- different statistical methode
- different underlying statistical trends

- different underlying assumptions and hypotheses
- different time periodes taken into account
- different ways in which the projections are modified to reflect the importance of various factors influencing demand and supply.

B. Qualitative predictions

The obvious lack of reliability of simple quantitative predictions - which exclude the great number of external factors, influencing manpower requirements - may have been due to the fact that a number of authors tried to add the qualitative factors to the complexity of the problem of manpower-forecasting.

Three major attempts to eleborate the influencing parameters, which rule the requirements in manpower, have been made.

Anderlas study /1/ outlines in general the important influence of electronic data processing in the field of information and documentation, which he defines in its widest possible sense.

The starting point is the specification of the factors, which have the greatest influence and which govern the necessary operations in the information field in the future.
These are:

- growth of scientific and technical literature
- increase of the number of authors in the scientific and technical sector
- expansion of documentation activities
- rapid growth in the "knowledge industry" caused by automation of information
- decreasing costs in information technology.

These developments will provoke a need for personnel with very different qualifications compared with those now existing.

Retraining of staff in service will then become a real problem, since the qualifications obtained by formal education and training will not keep up with the rapid changes in information systems.

Partly in contradiction to the overall and technologically orientated view of Anderlas study is that of Schur /30/ who limited his study to the impact of changes on the professionals (information-specialists). He emphasizes the social factors which will influence the operations in the information systems.

Basic trends in the fields which have implications for education and training in information work are as follows:

- growing demand for more accessible, faster and more comprehensive information systems and services
- increase of specialized data-banks
- growing pressure on information systems caused by requirements which are based on the expanding education sphere
- shift in the system - user interfacial relation of information systems
- changes in the cost structure of information systems
- increasing division of labour in different operations of information systems
- growth in computerization and telecommunication capacities
- increasing international cooperation.

The study conducted on behalf of FID-ET /34/ followed a different approach. The purpose of the paper is primarily devoted to the task of giving an orientation frame as to how complexly the question of manpower should be considered. The starting point of this study is an elaboration of a simple prognostic scheme, in which the wide number of influencing factors mentioned by different authors can be described. In this simple scheme, two different classes of influencing parameters have to be distinguished:

- internal forces; these are development lines which have their origin in the information systems itself and cause changes

- external forces; these are development lines which have their origin in the general political and social surroundings of information systems and produce an effect on the operation of such systems.

Among these are several parameters which go far beyond the traditionally defined field of consideration:

- economic developments and their influence on requirements of information systems
- political developments
- functions of science and technology for society
- changes in information consciousness as a result of the growing importance of science and technology for the society
- changes in the general education system caused by new and qualitative different information needs
- foreseeable developments in the educational system
- methodological developments which will improve the work in information systems
- technological developments which will bring severe changes in the organization of operations in information systems
- communication developments which will enrich the communication possibilities of the population as to number, quality and comfort.

Since the three studies are rather different in purpose and approach, the views expressed concerning the expected developments are equally different. On the other hand they all have in common the view that any important change in society will produce effects on quality and quantity of information personnel.

Different opinions expressed in the appropriate literature are caused by different individual estimates about factors which will lastly be responsible for what is to change and to which

extent. This leads to the more methodological question of the existing qualitative predictions. All authors base their estimates and predictions on statements of literature or on individual understanding and experience respectively. According to the question as to which factor will influence the development in this field and to which extent, all reviewed studies are rather vague. They show, with different accentuation, what can happen in a mostly undefined time, but they do not weigh the factors according to their importance and to their relation to others.

Up to now, there is almost no strictly defined frame stating the point of time and the rate of extention and scale of importance of events which produce effects on the operations in information systems.

The statements of influencing parameters which are uttered in these three studies are solely a listing of possible events which will have some (undefined) effects at some time on the qualification structure of information specialists. What is actually needed within the scope of qualitative forecasting are studies which provide reliable and precise predictions in terms of well defined time-periods and events, which have to be weighed up in accordance with their influence on information work.

Beyond these basic requirements it should be demanded that a generalization of individual opinions concerning issues of the future should be achieved by using scientifically based forecasting methods /16; 20; 21; 31/. Furthermore it should be demanded that the two basically different approaches, the quantitative and the qualitative, should be combined in order to obtain sufficient results on the probable developments in the personnel structure of our profession.

Designing a project for qualitative forecasting

Within the wide range of forecasting methods as described in the literature /16; 20; 21; 31/ there is a choice of different techniques and methode ranging from trend extrapolation to discontinuation analysis, analogy-technique, scenario-technique, simulation-study and several intuitive techniques.

Some of these methods and techniques aim at mainly quantitative results, others are only applicable on the basis of a considerable fund of already available statistics. This reduces the possibilities of utilization of the various techniques and methods to the conditions and sources which are already existent in a country.
That means that the choice of methods for forecasting is in any case dependent on the efforts already made in a particular country and this implies that several techniques have to be excluded from the choice because of the lack of certain prerequisites to apply them.

Within the specific conditions of the Federal Republic of Germany a project was designed to conduct a quantitative forecasting study on future manpower development in the field of information and documentation. The name under which this project is known is FIABID, research project on an integrated training scheme for librarianship, information and documentation.
Up to now in this field of work, only minor efforts have been made so that the project has to start at the very beginning since there are almost no reliable data available.
At the starting point, the project had to face the following restrictions and unsolved questions, which are based on the specific historically developed conditions of our educational system:

- The information profession - as opposed to the library profession - is not yet recognized by any governmental rule or regulation.

Even the professional organizations have not yet elaborated ruling guidelines or criteria which govern career patterns of the profession. This means that the profession is open to qualified personnel from fields other than information work who have not necessarily obtained qualifications through information studies.

- The fields of librarianship and information work are up to now - because of their different history - divided in two different and separate fields, which makes it even more difficult to integrate them.
- Almost no reliable statistical data on the structure and number of information workers exist. This makes any reliable quantitative forecast impossible as well as excluding the utilization of several forecast techniques which are only applicable on the basis of at least some rough statistics.
- Furthermore it is felt in the profession that due to scientific and technical innovation, the different qualification levels should be re-arranged, but there are several different models and structures available which contradict each other.

Under these fairly bad conditions and regarding the points of criticism already mentioned in connection with the failure and lack of purely quantitative or qualitative forecasting studies, the project had to follow a different path.

The starting point of consideration was the combination of techniques of forecasting with empirically based methods of measuring the present operations in the information field.
The mode of procedure was therefore twofold.
First of all we had to design a reliable and strictly defined picture of the probable developments in the information and documentation field within the next 25 years. This refers to the background from which requirements for education and training should be derived and directed to the necessities of the practice and the foreseeable changes in the operations of in-

formation systems. In opposition to the common procedure that requirements for education and training are directed to a professional image, which is in most cases rather vaguely defined, we are convinced that the forecasting of future developments is the only way to design education and training requirements upon it, in order to meet the future demands of practice.

An instrument to gain a reliable scientifically based picture of future events on a base of precise statements is the Delphi-Method (33). Applied for the first time in 1963 (17), this method is one of the most practiced in long-range-forecasting. It is based on the idea of asking, in several iterative steps, the most outstanding experts of a field what events will, to which extent and at what time influence the field of consideration and what might be the reasons and effects of it. The results of the first round of questions were summarized and stated in the second round, where the experts were urged to comment on their former statements. This procedure will be repeated 3 to 4 times where the different opinions of the carefully selected experts tend to cumulize on roughly comparable levels. Experiences have been made in the employment of the Delphi-Method in information science (18,29). It has been found out that this technique is able to provide fairly ressonable results, and therefore it is of some value for the field of information and documentation. The comparatively low costs and the fact that no further data are necessary to conduct a study like this made the decision of choice easier.

Especially for longe-range-forecasting, the Delphi-Method has been utilized in the U.S.A., where research needs in library and information science education have been predicted (6,7). In Sweden (24) the changes and effects of information planning activities have been forecast ed.

The results of the Delphi-survey, which is now in the initial phase, will be contrasted with opinions of experts on existing structures in the information field. For this purpose, it is

necessary to survey in selected samples what is actually done and by whom in the institutions of information and documentation. By employing one of the wide variety of empirically prooved techniques the diary-technique and the non-participating observation have been selected with the side of these techniques. We hope to obtain some indicators for the gap between skills and abilities, obtained during qualification and the requirements of the existing jobs.

Leading hypotheses are therefore

- The obtained qualifications of qualified information personnel are directed to an image of practice which doesn't exist anymore - according to that which they are forced to do.
- The requirements of practice need qualification of different type and mode according to that which is actually taught in education and training.

In the next step, the necessity of developing a prognostic model occurs, and this should be based on the system approach. Under consideration of the difference between the active state of staffing and foreseeable developments in the field, recommendations will be derived to close the gap between the actual state and the condition of future requirements by indicating what must be done to meet the future demand for various types of qualified personnel.

This prognostic model must be, in a further step, fed with statistical data to provide the quantitative figures for future manpower movements. These data have to be surveyed by different questionnaire-surveys, asking potential employers, responsable educators and other experts as to what will be the number and types of qualification required in the next future.

Both components, the forecasting and the empirically based, have to be confronted and examined concerning their plausibility.

References:

1) Anderla, G.: Information in 1985. A forecasting study in information needs and resources. Paris: OECD 1973. 131 S.

2) Ashby, R.F.: Survey of students of librianship and information science completing courses in December 1972. Library Ass. Record. Vol. 75. No. 10, 1973. p. 201-202.

3) Ashby, R.F.: Survey of students of librianship and information science completing courses during summer 1972. Libr. Ass. Rec. Vol. 75. No. 7, 1973. p. 138-139.

4) Ashby, R.F.: Survey of students of librianship and information science completing courses in December 1971. Libr. Ass. Rec. Vol. 74. No. 12, 1972. p. 235-236.

5) Ashby, R.F. and D.W.G. Clements: Survey of students of librianship and information science completing courses in summer 1971. Libr. Ass. Rec. Vol. 74. No. 10, Oct. 1972, p. 193-194.

6) Borko, H.: Predicting research needs in library science education. In: Borko, H. (Ed.): Targets for research in library education. Chicago: ALA 1973. p. 200-227.

7) Borko, H.: Predicting research needs in library and information science education. In: Proceedings of the ASIS 33rd. Annual Meeting. Vol. 7. 1970. p. 27-29.

8) Brimelow, T.: What educational programme is required to produce the necessary specialists? Aslib proceedings. Vol. 24. 1972. p. 570-573.

9) Broome, E.M.: Library manpower planning. In: ASLIB - proceedings, 25. 1973. p. 400-414.

10) Clements, D.W.G.: Survey of students of librianship and information science completing courses in December 1969. In: Libr. Ass. Rec., 73, 1971. No. 5. p. 85-89.

11) Clements, D.W.G.: Demand for and supply of trained librarians. In: Libr. Ass. Rec. Vol. 73, 1971. No. 2. p. 25-27.

12) Department of education and science. Census of staff in librianship and information work in the United Kingdom 1972. London: Dept. of education and science. 1972. 31 S.

13) Department of education and science: Statistics of libraries. In major establishments of further education for the United Kingdom. 1973/74. London: Dept. of education and science. 1974. 294 S.

14) Edwards, A.P.: Estimating manpower requirements for information work in the U.K. In: International conference on education for science information work. Proceedings. 3rd. - 7th April 1967. The Hague FID 1967. p. 3-10.

15) Frenzel, U. and A. Blüm: Approximate quantitative forecast of the needs in information science specialists in the countries of the European Communities in 1985. (Report for the Commission of the EC.) Frankfurt/M.: Batelle 1976. 65 S.

16) Gehmacher, E.: Methoden der Prognostik. Freiburg: Rombach 1971. 126 S.

17) Gordon, T.J. and O. Helmer: Report on a long-range-forecasting study. Santa Monica, Calif.: Rand Corp. Sept. 1964. 65. 45 S.

18) Gupta, A.B., D.L. Shirey, A. Debons: Trends in manpower needs in information science from 1967-1982. ASIS.J. H-1, 1974.

19) Havard-Williams, P. and E.G. Franz: Planning information manpower. Pap.pres. on the Intergovernmental Conf. on the Planning of National Documentation, Library and Archives Infrastructures. Paris: Unesco 1974. 70 S.

20) Jantsch, E.: Technological forecasting in perspective. A framework for technological forecasting, its techniques and organization, a description of activities and annoted bibliography. Paris: OECD 1967. 401 S.

21) Jantsch, E.: Forecasting and system approach. A frame of reference. In: Management science. 19. 1973 (12). p. 1355-1367.

22) Keith, Sylvia: Survey of students of librianship and information science completing courses in U.K. colleges during the period 1969-70 to 1973-74. In: Libr. Ass. Rec. 77. 1975. No. 12. p. 282-284.

23) Kortendick, J.J., E.W. Stone: Job dimensions and educational needs in librianship. Chicago: ALA 1971. 503 S.

24) Laubinger, E.: Materialien zur Bibliotheksplanung in Schweden. Pullach: Verl. Dokumentation 1973. 351 S.

25) Lescure, N.: Survey of students of librianship and information science completing courses during summer 1973. In: Libr. Ass. Rec. 76. (8) Aug. 1974. p. 151-152.

26) Moore, N.: Manpower forecasting. In: Libr. Ass. Rec. London 1974.

27) Perry, B.J.: Information work and workers of the coming decade. In: ASLIB-Proceedings. Vol. 24. 1972. p. 556-561.

28) Reilly, Kevin D.: Prospects for use of the Delphi Method in information science research. In: Proceedings of the ASIS 33rd. Annual Meeting. Vol. 7, 1970. p. 27-29.

29) Reilly, Kevin D.: The Delphi-Technique: Fundamentals and application. In: Borko, H.: (Ed.): Targets for research in library education. Chicago: ALA, 1973. p. 187-199.

30) Schur, H.: Education and training of information specialists for the 1970s'. Paris: OECD 1973. 86 S.

31) Staudt, E.: Struktur und Methoden technologischer Voraussagen. Göttingen: Vandenhoek 1974. 119 S.

32) Wassermann: Recruitment and utilisation of personnel. In: Documentaliste. Vol. 11. No. 1. 1974. p. 6-8.

33) Weaver, W.T.: Delphi - a critical survey. Educational Policy Research Center. Syracuse University. Syracuse 1972. 63 S.

34) Wersig, G. and T. Seeger: Future main trends of information systems and their implications for specialization of information personnel. Frankfurt: DGD 1975. 31 S. (FID-ET Occasional Paper)

B. Professional aspects of education and training

Emilia Curras
Universidad Autonoma, Madrid, Spain

PROJECT FOR PROFESSIONAL CATEGORIES AND COMMON STUDIES AT DIFFERENT KINDS OF SCHOOLS AND FACULTIES FOR INFORMATION OFFICERS, LIBRARIANS, AND ARCHIVISTS

Summary:

The situation of the information worker, librarians and archivists is studied, and especially the modern function of the two last categories in commercial, governmental and industrial enterprises.

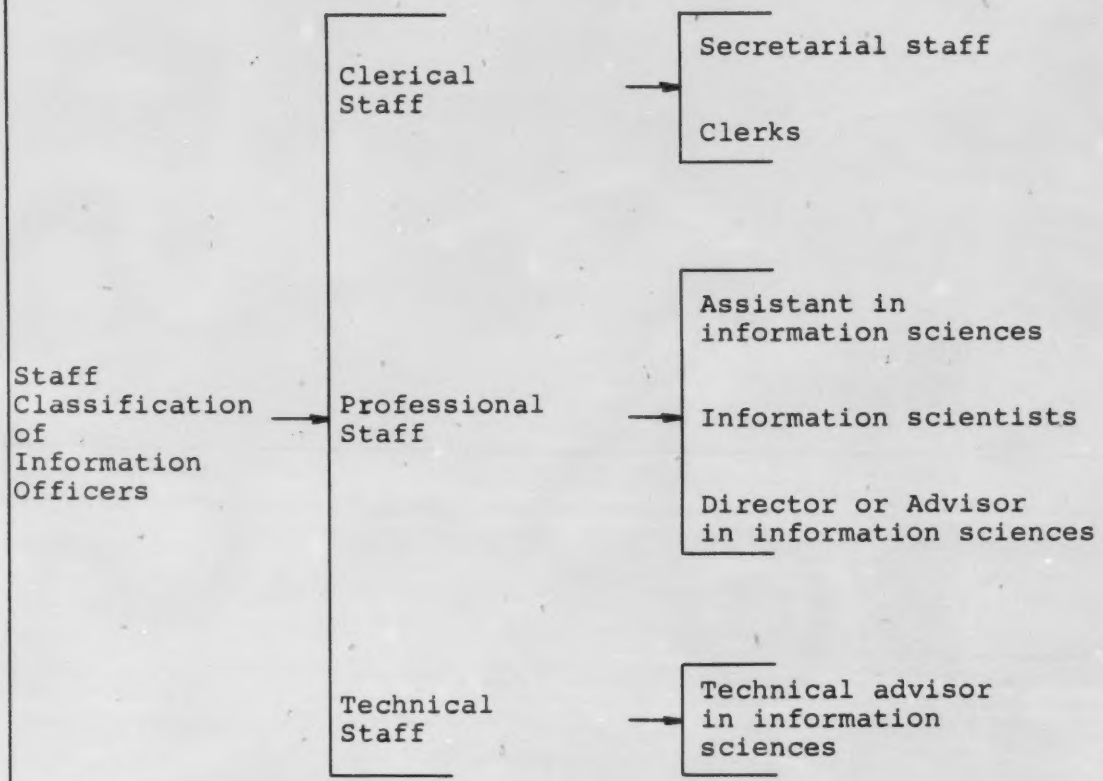
The following classification of staff for each one of the three categories is proposed: clerical staff: secretarial staff and clerks; professional staff: assistant in information sciences, information scientists, director or advisor in information science and technical advisor.

Training would be undertaken in the following types of schools: secretarial schools, university schools (linked to a particular university) and faculties.

Modifications in curricula in the existing schools or faculties are proposed Curricula for new University schools and faculties are, also, proposed.

In both curricula common studies for all three categories, information workers, librarians and archivists, and special individual branches for each one of them, are proposed.

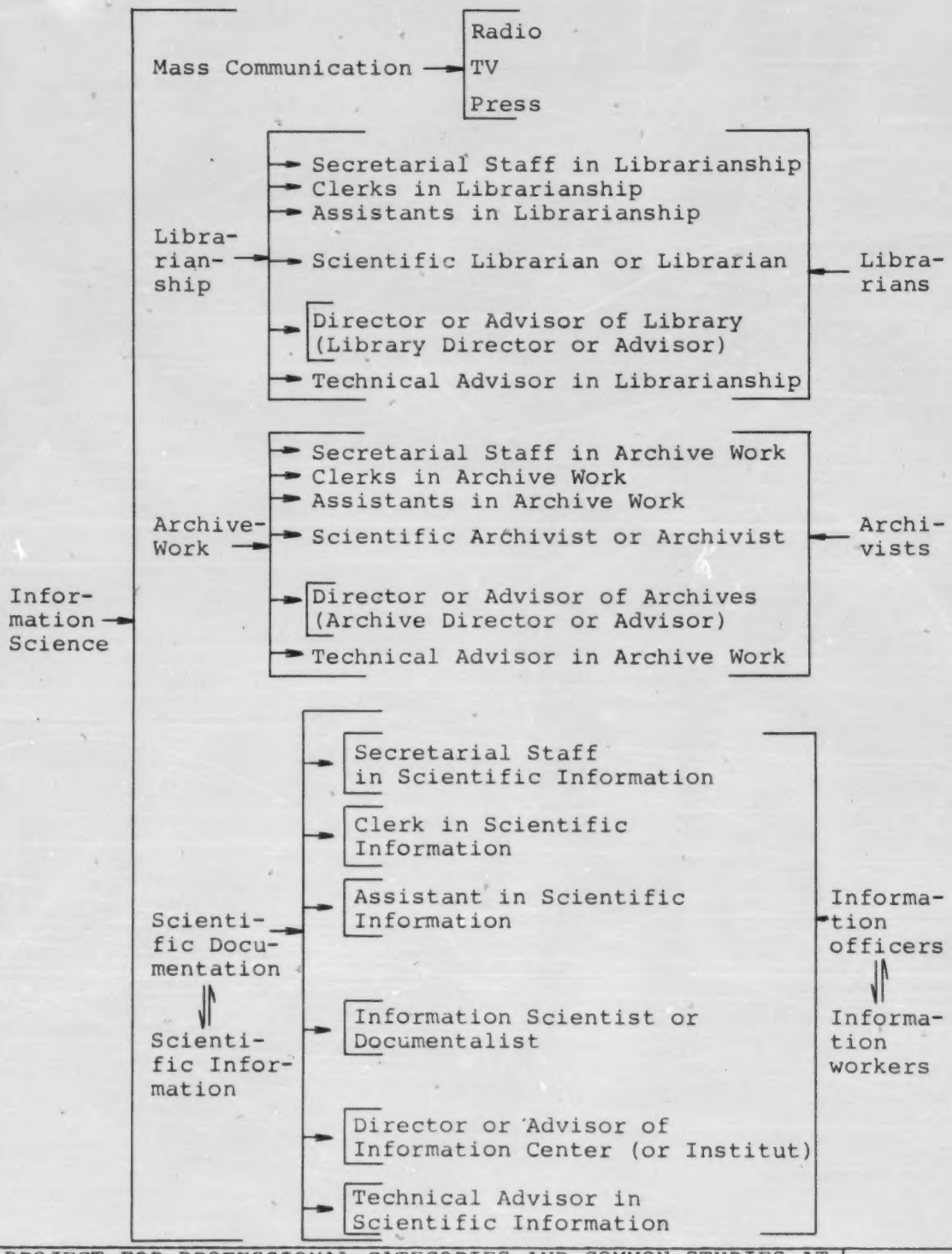
STAFF CLASSIFICATION IN SCIENTIFIC INFORMATION, LIBRARIANSHIP AND ARCHIVE WORK



PROJECT FOR PROFESSIONAL CATEGORIES AND COMMON STUDIES AT DIFFERENT KINDS OF SCHOOLS AND FACULTIES FOR INFORMATION OFFICERS, LIBRARIANS AND ARCHIVISTS.

Fig. 1

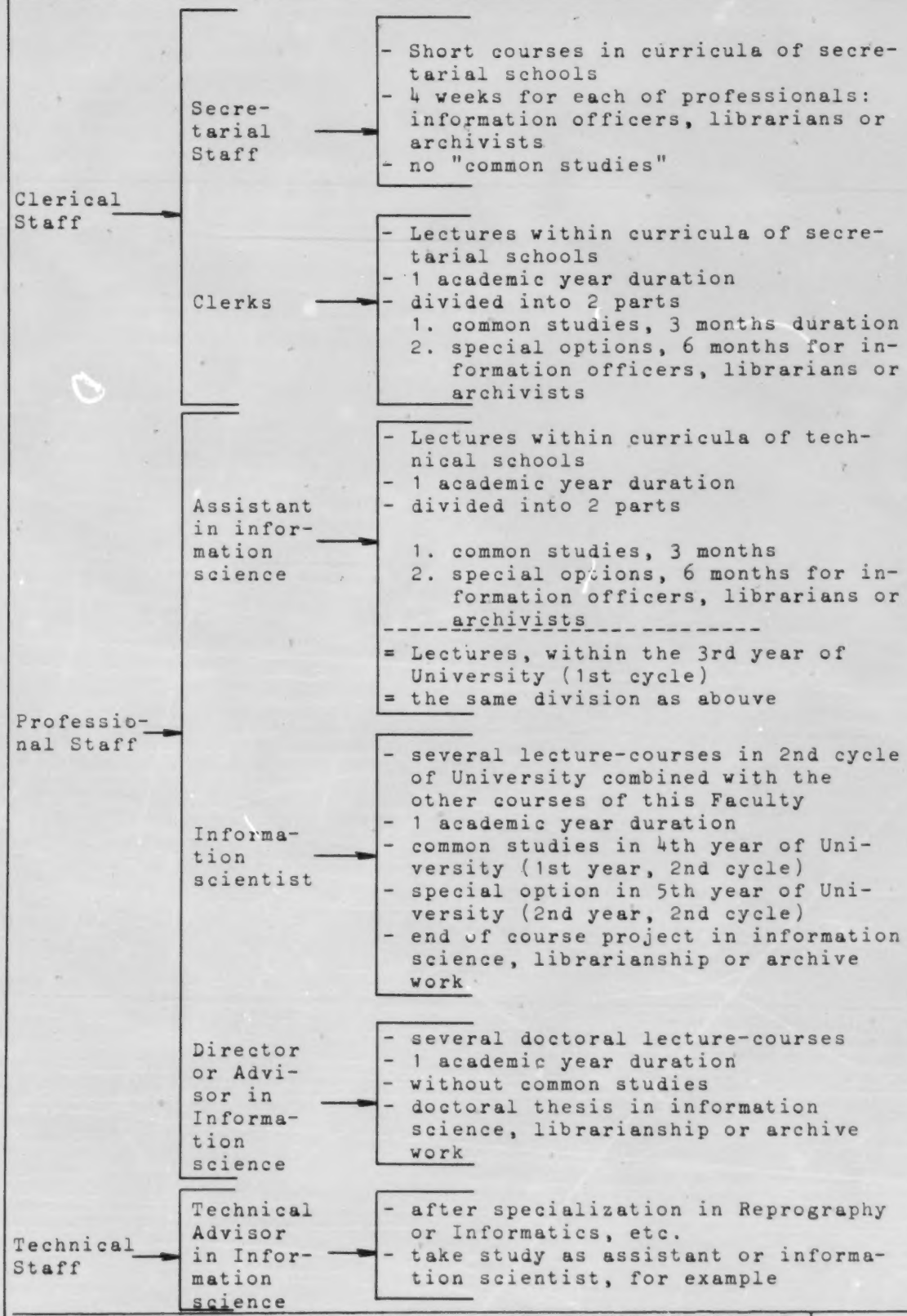
PROFESSIONAL CATEGORIES IN SCIENTIFIC INFORMATION, LIBRARIANSHIP AND ARCHIVE WORK



PROJECT FOR PROFESSIONAL CATEGORIES AND COMMON STUDIES AT DIFFERENT KIND OF SCHOOLS AND FACULTIES FOR INFORMATION OFFICERS, LIBRARIANS AND ARCHIVISTS.

Fig. 2

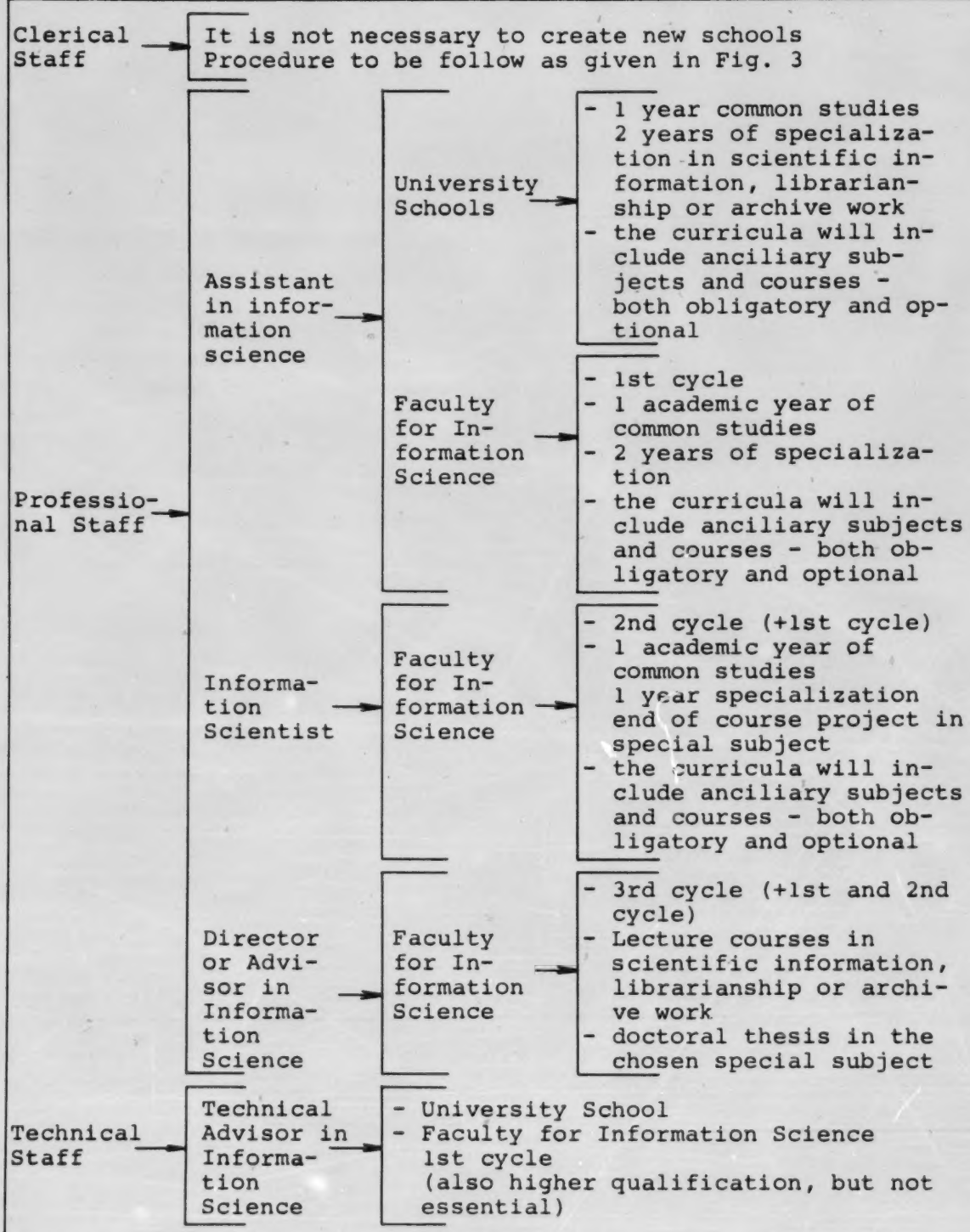
MODIFICATIONS TO BE INTRODUCED IN EXISTING SCHOOLS AND FACULTIES IN ORDER TO STUDY SCIENTIFIC INFORMATION, LIBRARIANSHIP AND ARCHIVE WORK


Clerical Staff
Secretarial Staff
- Short courses in curricula of secretarial schools
- 4 weeks for each of professionals: information officers, librarians or archivists
- no "common studies"
Clerks
- Lectures within curricula of secretarial schools
- 1 academic year duration
- divided into 2 parts
1. common studies, 3 months duration
2. special options, 6 months for information officers, librarians or archivists
Professional Staff
Assistant in information science
- Lectures within curricula of technical schools
- 1 academic year duration
- divided into 2 parts
1. common studies, 3 months
2. special options, 6 months for information officers, librarians or archivists
= Lectures, within the 3rd year of University (1st cycle)
= the same division as abouve
Information scientist
- several lecture-courses in 2nd cycle of University combined with the other courses of this Faculty
- 1 academic year duration
- common studies in 4th year of University (1st year, 2nd cycle)
- special option in 5th year of University (2nd year, 2nd cycle)
- end of course project in information science, librarianship or archive work
Director or Advisor in Information science
- several doctoral lecture-courses
- 1 academic year duration
- without common studies
- doctoral thesis in information science, librarianship or archive work
Technical Staff
Technical Advisor in Information science
- after specialization in Reprography or Informatics, etc.
- take study as assistant or information scientist, for example

PROJECT FOR PROFESSIONAL CATEGORIES AND COMMON STUDIES AT DIFFERENT KIND OF SCHOOLS AND FACULTIES FOR INFORMATION OFFICERS, LIBRARIANS AND ARCHIVISTS.

Fig. 3

SCHOOLS AND FACULTIES TO BE CREATED FOR THE STUDY OF SCIENTIFIC INFORMATION, LIBRARIANSHIP AND ARCHIVE WORK


Clerical Staff
It is not necessary to create new schools
Procedure to be follow as given in Fig. 3
Professional Staff
Assistant in information science
University Schools
- 1 year common studies
2 years of specialization in scientific information, librarianship or archive work
- the curricula will include anciliary subjects and courses - both obligatory and optional
Faculty for Information Science
- 1st cycle
- 1 academic year of common studies
- 2 years of specialization
- the curricula will include anciliary subjects and courses - both obligatory and optional
Information Scientist
Faculty for Information Science
- 2nd cycle (+1st cycle)
- 1 academic year of common studies
1 year specialization end of course project in special subject
- the curricula will include anciliary subjects and courses - both obligatory and optional
Director or Advisor in Information Science
Faculty for Information Science
- 3rd cycle (+1st and 2nd cycle)
- Lecture courses in scientific information, librarianship or archive work
- doctoral thesis in the chosen special subject
Technical Staff
Technical Advisor in Information Science
- University School
- Faculty for Information Science 1st cycle (also higher qualification, but not essential)

PROJECT FOR PROFESSIONAL CATEGORIES AND COMMON STUDIES AT DIFFERENT KIND OF SCHOOLS AND FACULTIES FOR INFORMATION OFFICERS, LIBRARIANS AND ARCHIVISTS.

Fig. 4

References:

Brodmeier, B.: Proyecto de Estudio de un Estatuto para Documentalistas en Alemania. 1974.

Currás, E.: Documentalista Científico: Una Profesión sin Formación. Quim e Indus. 7 y 8, 507-511. 1974.

Currás, E.: Informe sobre la Conferencia Intergubernamental para el Planeamiento de las Infraestructuras Nacionales de Documentación, Bibliotecas y Archivos. Unesco. Paris 1974. Departamento de Documentación Científica. Facultad de Ciencias. Universidad Autónoma de Madrid. Octubre 1974.

Currás, E.: Informe sobre el Estado de la Enseñanza de la Documentación en España. Departamento de Documentación Científica. Facultad de Ciencias. Universidad Autónoma de Madrid. Febrero 1974.

Currás, E.: Informe sobre la Reunión del Comité de Educación y Formación de la Federación Internacional de Documentación. FID/ET, en La Haya. Septiembre 1974. IRANOR. Comisión de Trabajo 50 - Documentación. Diciembre 1974.

Currás, E.: Programa de Curso 1975-76 sobre Documentación Química para la Cátedra de Química Analítica. Departamento de Documentación Científica. Facultad de Ciencias. Universidad Autónoma de Madrid. 1975.

Currás, E.: Programa de Cursillo sobre Documentación e Información Científica. Departamento de Documentación Científica. Facultad de Ciencias. Universidad Autónoma de Madrid. 1975.

Currás, E.: Planes de Estudio sobre Documentación y Biblioteconomía en la Industria para la Escuela de Formación Profesional y Social de Madrid. 1973.

Le Documentaliste en France et Son Salaire en 1974. Les cahiers de L' A.D.B.S. Sciences et Techniques de l'Information. Association Française des Documentalistes et des Bibliothecaires Spécialisés. 1974.

Franz, E.: Formation archivistique. Création d'un centre de formation des archivistes, des bibliothécaires et des documentalistes. Unesco 3050/RMO.RD/DBA. Paris, June 1974.

Garcia Ejarque, L.: La Formación Profesional de los Bibliotecarios en España: Historia y Situación Acutal. Boletin de la ANABA. XXIV. 3-4, 3-11. Julio-Diciembre 1974.

Garrido, J., Curras, E.: Programa sobre Documentación Científica y Biblioteconomia en el Instituto de Ciencias de la Educación 1974-75. Departamento de Documentación Científica. Facultad de Ciencias. Universidad Autónoma de Madrid. 1974.

Garrido, J., Curras, E.: Proyecto de Programa para la Enseñanza de la Documentación Científica en la Universidad Autónoma. Departamento de Documentación Científica. Facultad de Ciencias. Universidad Autónoma de Madrid. 1973.

Majewski, Z.: Informe sobre la Formación de Documentalistas. FID/ET. 1970.

Meyriat, J.: Enseignement pour la Formation des Professionnels de l'Information, Programme d'un "Tronc Commun" (Project). Fondation National des Sciences Politiques. Paris. Octobre 1973.

Pietsch, E.: Information and Documentation as Teaching Subjects at Universities and Technical Institutes. FID/ET. 1970.

Pietsch, E., Droog, J.: Pilot Proyect for Education of Users. FID/ET. Informe Presentado a la Reunión de Trabajo FID/ET. 1975.

Piróg, W.: Informe sobre la Formación de Documentalistas. FID/ET. 1971.

Programa de las Asignaturas de Doctorado de la Universidad Politécnica de Barcelona. 1974.

Programa de las Asignaturas de Doctorado de la Escuela de Ingenieros Industriales de Bilbao. 1969.

Programa de Curso sobre Bibliotecología en la George Washington University. New York. 1975.

Programa de Cursos 1975-76 de Doctorado de la Facultad de Medicina de Valencia. 1975.

Programme 1975 d'Etudies pour "Documentation et Information". Association Française des Documentalistes et Bibliothécaires spécialisés. 1975.

Programa de Seminario sobre: "L'Information une nouvelle fonction dans l'enterprise". Bureau Marcel van Dijk. Paris. Marzo 1976.

Wersig, G.: (Entwurf): Studienplan für Informations- und Dokumentationswissenschaft. Freie Universität Berlin. Fachbereich 11, Philosophie und Sozialwissenschaften. Diciembre 1974.

Wersig, G.: Informe sobre la Formación de Documentalistas. FID/ET. 1973.

Janos Szentmihalyi
University of Budapest, Hungary

THE DEVELOPMENT OF THE PROFESSION AND ITS INFLUENCE ON THE TRAINING OF LIBRARIANS AND INFORMATION SPECIALISTS

Abstract:
Professional training develops with the development of the profession. The most important development of specialization within librarianship is the handling of information. This requires specialized training and alterations in library training. Information specialists may be trained in library or science training institutions.

The content, form and length of time of all kinds of professional training are determined by the practical requirements demanded from the future specialist. This basic principle is seen in the constant change in the content and in the form of organization of the training, and it is also present in the contextual and organizational specialization. The formula is clear and almost universal. A profession is established. Then they start to teach whatever is required to fulfil the professional work. As the profession develops and becomes specialized, the professional training develops and becomes specialized accordingly. Let us just think of the examples of the professions related to the practical application of technology, the foundation of polytechnical colleges in the 19th century, and the system of training engineers and technical specialists which has become so specialized since then. The profession, whose content and goal is to help to make the best use of the information offered by all kinds of documents is not an exception, and now, it is just as specialized and many sided a profession.

The way the profession developed and at the same time became specialized is well known. As libraries came into being, as they developed and became specialized, the profession of librarianship developed and became specialized as well.

There is one thing which should not be ignored or forgotten when talking about the development and specialization of the profession. I am thinking of the main point behind the activities of a librarian; the goal and the sense of the profession from the very beginning could not have been anything but the transmission of the message that could be found in the preserved documents. And there are increasingly more of these messages, they are more and more specialized and complicated, their transmission becomes a more difficult task, and the practical requirements demanded from the transmitter make the formation of a training system necessary.

When talking about this training system, it should be remembered that within it, all kinds of training, directly or indirectly, have to qualify the trainee for the fulfillment of communication activities, and that nowadays these activities are very well specified. That is, the information about the documents which serve as the basis of knowledge, and their content.

The most important specialization process within the professional training is that the handling of the information besides the handling of the documents, becomes more and more important. Another one is that the handling of scientific and technical information, in spite of the similarities, does not mean the same job as the handling of other types of information.

The scope of the profession nowadays is rather wide. The handled messages contain innumerable varieties and types of written records as the written manifestation of artistic expression. This fact by itself makes the formation of a homogenious picture of the profession impossible. If we think of the handling of messages which mean a modern communication of technical and scientific information, then we have to acknowledge that the roots of the profession lie in the up-to-date library work, since the communication of technical and scientific information is just as much part of this profession today, as it has been throughout the many centuries of its tradition. If we consider how far the branches of the profession reach, then we can see the picture of a very complicated information system, which is

an organic part of the management, and in which the scientific and technical information is integrated into the storage and retrieval system of other types of information, in order to prepare the best decisions.

It is undeniable that the library as an institution is constantly developing and renewing itself. Data banks and information storage and retrieval systems are being established in individual libraries. This, of course, has its consequences in the training of librarians as well. But neither the application of the modern methods of document analysis, nor the mechanization of library work is the reason for the occasional raising of the question: is a documentalist needed in a library? The raising of this question involves the necessity of establishing a close connection between the training of information specialists and librarians. The reason for the existence of these close connections between the two types of training is rather the library reference work. The limitations of the library reference work have been discussed a number of times in the past. It was considered to be such a limitation, for example, that the source of information was restricted to the library collection, and that the information was not analytical, not profound enough, and not evaluative. These deficiencies, if they existed at all, are not characteristic of the modern library services any more. But it is characteristic of the library information even today that its communication effect is limited. In reality, we use only primary and secondary sources which form part of the library collection. Although these evaluate the information, there is no such library information which could present the information in the field of science and technology in such a manner which would prepare decisions. This makes the presence and the work of a documentalist in certain cases necessary in the library; this documentalist has to be familiar with the integration process of the information given by him.

Thus, the connection between the training of information specialists and librarians is given; so are those which make this training similar in its content to the other types of training,

in professions related to information evaluation, which are characteristic of the training as specialists in computer science, in management science, in marketing, etc.

The training institutions of the specialized profession, within which the specialized job means an increase in the task of the training, are realized either individually or within the framework of librarian training institutions or within that of the other professional training institutions which will undertake the job. Generally, the training is carried out by the already existing librarian training institutions. There will be problems though, when the emphasis on the difference between the two professions is looked upon as a matter of prestige. The obvious connections with the content of the handled informationjustify the training of the specialists in the institution for the training of scientists. Most of the time, there is a compromise. If the training of information specialists is carried out in a librarian training institution, then besides teaching the common basis it is necessary to develop a training program according to the up-to-date standing of the profession. This was what happened in Hungary,too. The necessity of the university training of information specialists was felt, because the specialization within librarian training, and the various intermediate and advanced courses could not fulfill the requirements of the profession any more. In 1975, a four-term correspondance course was started at the Department of Library Science of the University. As goal was given: to train such information specialists who are very well acquainted with the handling of the informations offered by the documents, and have an overall view of the special and other types of information systems, and who can help to prepare decisions which require information. The thematical centers were formed in accordance with these goals. The topics, after having defined the basis of the information work, contain the following: The collection of specialized material, and its putting at the disposal of the readers, that is, modern library science, the introduction and analysis of the sources of information, the pro-

cessing of specialized information, the analysis of information retrieval languages, the knowledge material about the realization of the mechanization of the special information processes, the analysis of information services, the introduction and discussion of problems and the institutions related to the organization and principles of information systems, finally the economic and legal aspects of information work. The aim was to familiarize the students with the material and with the manner of thinking which correspond to the formation of the profession.

Time will tell how successful this has been and is.

Rosa Ricart-Ribera
Barcelona Library Association, Spain

LIBRARIANS AS DOCUMENTALISTS

Abstract:
"Librarian" and "documentalist" are not clear defined. Librarians, in particular special librarians, have ever looked for user orientation. Therefore the basic training of librarian and documentalist must be the same. For this reason existing facilities should be expanded.

To begin with I think we should remember that librarians and documentalists spring from the same roots. They grow from the same trunk and, only comparatively late in their development, do they spread out into diversified branches. A difficulty which confronts us in considering the distinction between these branches is that of definition. There is still no general agreement about the meaning of many of the most common terms that we use when we come to talk or write about scientific and technological library and information or documentation work.

The definition given in "The Librarians' Glossary" published in England in 1971 for Librarian is: "One who has charge of the contents of a Library, making the stock and library services available to those who need them or are entitled to them." As simple as that; and the definition for Documentalist is: "One who practises documentation. An information officer or intelligence officer who is concerned with the collection and dissemination of knowledge, rather than the librarian who is concerned with the techniques of handling records of knowledge, making them available and possibly exploiting them. He is concerned with assembling information contained within documents together with data from other sources to form a new compilation."

The differentiation is not very clear and if we look under "Documentation" it becomes even less clear. However, among all the definitions I have come across, librarians and documentalists have the following in common:

1) Both deal with the same basic material: Documents as records of all kinds of intellectual activity and in every form, from books and periodicals, to leaflets, theses, patents, standards, statistics, computer material, audio-visual material, and so forth.

2) Both are concerned with the collection, classification, systematic recording and organization which allow for rapid retrieval as well as for the dissemination of material and its sources.

3) Both need a basic knowledge of techniques necessary for presentation, reproduction, publication, dissemination, collection, storage, subject analysis, computerization, organization and retrieval. The "French Union of Documentation Service" adds: "The identification, investigation, assembling, and use of Documents."

All these factors therefore are common to librarians and documentalists and, accordingly, call for the same basic training.

Perhaps in a very general simplified way, and with many particular exceptions it might be argued that the librarian is mainly concerned in selecting and providing material for all enquirers whereas the documentalist constitutes an ancillary to the researcher.

To differentiate the roles in this way, however, can lead to semantic hairsplitting, as specialised librarians have, for the past 25 years, played both roles, ever since, to quote Herbert Coblans (Librarianship & Documentation, London 1974) the "psychological shift" took place. User needs and search habits began to directly influence information policy, libraries ceased to be dominated by the "keeper" outlook, and current awareness and the selective dissemination of information became integrated into the practice of special librarianship.

I am sure that all of us are aware of the preoccupation felt by library authorities, especially since the end of the 50s., caused by the constant drain of qualified and experienced staff

from the technical library service to industrial firms, to government departments and research associations which offer more attractive salaries, conditions and promotion prospects. This trend caused such concern in England, that the matter was raised in the House of Commons during a debate in March 1961, which was subsequently reported in "Nature" and the "Library Association Record" and makes interesting reading.

The danger of dividing the profession on a matter of nomenclature is to be avoided. The basic training of librarians and documentalists, whatever their ultimate specialization, must remain the same, especially in countries where financial resources for education and research are limited and where a good cadre of professional staff already exists including the librarians trained in Librarians "Schools of Grado Medio" (equivalent to a British "A" level exams and University entrance requirements and 3 years of studies in a University or Technical School) such as the Barcelona Librarians School founded in 1915, and also other Schools and Universities in Madrid, Navarra, Valencia and Alcala de Henares which provide courses or seminars in librarianship and documentation. These provide basic training and experience necessary for a good general practice and would have to be complemented with specialised higher university courses to reach the right standard indispensable to first class "scientific and technological library and information work". There is, of course, room for replanning disciplines to meet broader functions and requirements. But we do not have to start from scratch to train documentalists who, in 6 years time, on finishing their studies, will face a very different world, if not a totally changed situation. We can, and must, make use of the personnel already working in these disciplines, but we must provide them with the necessary training to enlarge their knowledge, we must also ensure satisfactory promotion prospects and salary enhancements to make the profession an attractive one so as to lotice the right sort of person for this highly important work. The use of our present facilities is also much more economic, in time

and money, and this is a matter of supreme importance in view of the constant fluctuation of funds made available for education and research.

Thomas Seeger has spoken about the problems of forecasting educational needs in information and documentation and I should like to add the need to know the actual and future requirements of these services.

It is relatively easy to talk in terms of "publishing explosions". This terrifying phenomenon springs largely from the pressure placed on academics and others who are made to feel they must "publish or perish". Not always is sufficient attention paid to the possibilities and financial resources of sectors which, when not directly related to big industry, can seldom be considered opulent, nor to the increasing problems of storage and retrieval.

In this respect I consider the planning of the reports to be studied in view of a possible Congress of Documentation to be very positive. As a basis for such study, some subjects have been suggested for consideration:

- The present situation in the field of information, public and private action and possible development.
- Analysis of the needs for information: research, planification and approach.
- Economic analysis: expenses, prices, policy, marketing, costs to producer and consumer.
- Supply and demand for professional people and their training.
- Analysis of Spain scientific production.
- Technology at the service of information: computer, data banks, etc.

The conclusions would need be analysed and considered assessing the planning of training in respect to grades and number, for librarians, documentalists and information specialists. The following matters might also claim attention:

1. The planning of "Escuelas para graduados de Grado Medio" (adscritas o inseritas) appointed to the Universities (in Great Britain Grado Medio would approximately correspond to: Schools with entrance requirements of General Certificate of Education, "A" level, and a first University degree: 3 courses) on the basis of the Librarians Schools working in Barcelona, Madrid and Navarra (would have to be added).
2. The creation of Faculties of Bibliology, Information and Documentation at the Universities of Madrid, Barcelona and Valencia, for postgraduates to the higher university degree (Doctorado).
3. Courses of documentation and specialization for postgraduates in all subjects (sandwich courses).
4. It would also seem desirable for University faculties to encourage and accept theses on documentation in their particular disciplines, as is now being done in the Faculty of Medicine of Valencia.

The time allocated to my talk is nearly up, but I should like to propose as a basis for the study of grading and curricula the "Categories of Work", given in the documentated study produced by the Postgraduate School of Librarianship and Information Science of Sheffield University published in 1968. The categories, drawn up in 1973 by the Organization for Economic Co-operation and Development OECD, are as follows:

1. Production
2. Development (and Design)
3. Applied Research
4. Background Research.

Jean Meyriat
Fondation Nationale des Sciences Politiques, Paris, France

ACERCA DE LA PROBLEMATICA DE UN PROGRAMA BASICO (TRUNCO COMÚN DE ENSEÑANZA) PARA LA FORMACIÓN DE PROFESSIONALISTAS DE LA INFORMACIÓN, DOCUMENTALISTAS, BIBLIOTECARIOS, INFORMALISTAS, ETC.

Abstract:
Presentation of an ongoing project in France to develop a common core curriculum for documentalists and librarians by a commission which was composed of a large number of specialists and managers, but excluded archives which were not ready to move in at that time.

(Full text not available)

C. User Training

Jan Droog
Nobin, The Hague, Netherlands

AN INTRODUCTION TO THE EDUCATION OF THE USER OF INFORMATIONS

Abstract:
The necessity to educate users cannot be denied. Reasons are: communication is a basic social need; information is a most fundamental tool to live in society. User education needs a systematic approach which so far does not exist. In principle it should start in primary school and be continued in the whole socialization process. To do as, a start has to be made with teachers of schools to enable them to include the "information approach" in their lectures.

(Full text to be published in FID Journal)

Aida Mendez-Miaja
Institutio de Productos Lacteos, Madrid, Spain

THE EDUCATION OF THE DOCUMENTATION USER

I should like to take some minutes of your time and talk about a problem which is not exactly the subject of our meeting, but something very near to it and about which Mr. Droog has just given a very interesting talk. I am thinking about the formation and education of the information and documentation user to whom, after all, we dedicate all our work and knowledge.

A better formation of the scientist in documentation, which comprises every aspect of modern techniques of handling the information as well as the marketing knowledge of "buying" this product will, of course, give the documentalist a more professional character and with it his profession will command more respect. My question, however, is the following: What about the user?

Our aim, as documentalists, is to inform the user. But more often than not we find a total ignorance on his part about all matters concerning documentation and the profit that he can obtain from it. And, as I see from articles about this subject, the some problem also exists in other countries. In some of them, it seems that enormous sums of money are wasted because of duplication of research work, where, unknown to each other, different scientists work on exactly the same subject. On the other hand we read about sophisticated and complex documentation systems which scarcely any of its potential users know how to make use of.

As we all know, there are also some countries where the users really "use" the modern methods of documentation and know to whom they must go when they have a problem. At the conference

mentioned here, in Madrid, at the Plenary Sessions of the Patronato "Juan de la Cierva", in 1973, Mr. Andrew Aines, Director of the National Information Program of the National Science Foundation of the U.S.A. spoke about the efforts the Foundation was making aimed at the promotion and the problems of the user.

All the experiences accumulated in this field can very well help to inspire the elaboration of active and interesting programs. Considering the different types of users, different schemes should be worked out for students, for people working in industry and research, and for managers and directors, according to their specific needs.

We should be able to waken the conciousness and interest of the user, through conferences, articles and above all, through the direct contact between the user and ourselves.

To sum up: we should never forget that our "raison d'être" is not our own knowledge but the user and what he can make of it.

Thank you for your attention.

Gernot Wersig
Freie Universität Berlin

INFORMATION CONSCIOUSNESS AND INFORMATION PROPAGANDA

Abstract:
The basic ideology of the catchword "user training" is aiming to establish the user as a tool for the information agency. A contrary concept is "information consciousness", several aspects connected with this phenomenon are outlined, as well as a classification of "information barriers". Several relations between user and agency are specified, e.g. marketing, need orientation, education, monitoring, propaganda, public relations, advertising, training.

1. The basic ideology of "user training"

Historically it seems that the notion of "user training" is linked to the first origins of user research in general. In the late fifties first user studies (particulary in the field of Psychology) showed that scientists and technicians relied much less than expected on formal secondary information sources like libraries, information centers, etc.

This led in the sixties to theoretical approaches concerning users of the following type: The user is seen as a personality being placed in the middle of a set of concentric circles, each circle indicating a region of influence on the user such as: family, organisation, team, professional society etc. From the view of an information agency under these auspices, the user would be looked upon as a person being stooded by a lot of different communications and within this flood of units of information transmission not being aware of the potentials of the information agencies. "User training" in this context was based on the assumption that users not using the formal secondary sources are showing wrong information behaviour and have to be helped by the information agency to recognize this agency. Basically the underlying pattern is: The information agency is

doing its work well. What is wrong is the behaviour of the users. They have to be taught to use the information.

In the meantime, communication research has shown that user behaviour, as indicated in many surveys, is not that wrong or maladjusted to their situation as assumed in the former theories. Some basic hypotheses stemming from results of general communication research and which characterise the recent theoretical situation are the following:

- user are better: recipients in scientific and technological communication are rather independent. They establish a lot of selective and resisting mechanisms which allow individual orientation in the environment of a lot of differing, conflicting and competing information sources;
- recipients behave rather rationally. Information needs are based on problematic situations. These situations require precise, quick and relevant information which often cannot be provided by traditional formal information channels. In these situations, informal channels often prove to be efficient, cheep and fast. Therefore, reliance on informal channels/sources is reasonable to some extent. The danger is that these recipients get accustomed to the usage of informal sources to such an extent that they tend to use them even in situations which are not appropriate for informal sources;
- recipients are behaving rather actively. They are behaving as recipients or users usually because they are productive in their professional role as creators of new information. This means that their receptive role is caused by their active role. On the other hand, a lot of recipients are not what could be called "ultimate users" but play more active roles in the role of scientific communication, in particular as informal sources: multipliers, gatekeepers, information leaders, invisible colleges.

2. The notion of "information consciousness"

These findings which contradict to some extent the first ideo-

logy of user training should not lead to the other extreme to think that recipients or users behave in the right way or that behaviour of information agencies and the behaviour of their potential users form a perfect match. The main problem concerning the relation between information agencies and their users seems to be that "information consciousness" does not play a major role in social life. Even the highly developed industrialized societies which consequently use all possibilities of the scientific-technological revolution, exist in some kind of "pre-information age".

The lack of a social information consciousness is less proved by the surveys of information behaviour but rather indicated by some other observations which may not be quantified and specified as isolated empirical surveys, e.g.

- primary institutions of education (schools etc.) usually do not tend to concentrate on methods of keeping oneself informed. On the contrary, traditional educational methods rather tend to reduce active information behaviour than to improve it, e.g. by not permitting use of information sources in examinations, by not making pupils aware of unconventional information sources;
- the institutions of higher education similary do not concentrate on methods of collecting information but concentrate more on transmitting standardized knowledge.

This corresponds with the usage of information agencies - in particular if they are concerned with science and technology - to concentrate their services on the top of the ice-mountain, this means on the elite of the profession but not the broad public (students, technical workers). Information - if seen as a social value - so far is seen only in the framework of the elite of the scientific-technological intelligence:

- This is connected to the fact that the information problem is no problem which is a well known element of public consciousness. Information as a problem is no main subject of

mass media (even not of those which belong to the upper classes) on one hand; on the other hand, mass media do not act in a way that indicates that their main purpose is information (independent of the kind of society);
- in most countries the information problem as a subject of education and research is not integrated into the normal structure of education and research. Usually research is done by laymen such as practitioners, the education and training is done outside established educational structures.

This indicates that there is no real "information-consciousness" or "information-minded" society. Although it could be supposed that the whole information profession would be interested in changing their situation there are indications that there are strong barriers against the information-minded society:
- the information establishment on the one hand would gain a new status if information becomes a value of high societal importance, on the other hand, they would loose their relative monopoly. This in particular could be found in circles of established librarians which favour verbally the information consciousness but try to remain with the traditional "in-groups";
- measurable economic effectiveness is a main feature of industrial societies. This poses a serious problem for the information people since the effect of information only in very specific cases could be measured in economic terms. Information therefore is a cost factor, the productivity of which is hardly provable economically. In times of recession therefore information is one of the first sectors where efforts are reduced;
- the achievement motivation is one main feature of the motivational structures of industrialized societies. Information is hardly seen as a major factor leading to archievement (compared with other factors such as decisiveness).

The other qualities can be exploited with regard to the achievement motivation without necessary feedback to the consciousness. Information consciousness on the other hand cannot be reduced to the achievement motivation solely. If in one area of life (e.g. work) information consciousness is effected this easily can be transferred to other areas (e.g. political participation) which not always is wished by ruling classes.

The basic problem of optimal use of all social information resources therefore seems to be

- to effect a broad information consciousness on all levels of society
- to organize information sources in such a way that they meet the information consciousness on all levels of its development.

The main aspect of these two actions seems to be

- the analysis of barriers against use of information
- the education of people to overcome these barriers
- the development of information services taking into regard these information barriers.

3. Major information barriers

Engelbert (Informatik Vo. 21/No. 5/1974/p. 51-54 and No. 6/1974/p. 47-51) specifies the following main information barriers which play an important role in the transfer of scientific and technological informations:

a) <u>the ideological information barrier.</u> This is to be seen on two levels
   - between states with different forms of societal order, where different ideologies govern social life including research and technology. This may lead to the neglection of information from specific sources because it is felt that this information may be biased since it is based on a different ideology;

- between social groups within a specific society which rely on different ideologies. This is not valid only for groups being based on antagonistic differences (like capital owners and workers) but for other competing groups as well - e.g. information being thought of to be useful for librarians is often considered to be useless by information scientists because of its use for librarians.

The ideological barrier depends on the basic relation of information to behaviour. It perhaps cannot be overcome by education (because ideology itself is hardly to be overcome by education) but by a respective image of the information service specifying the ideological group it wants to cater for.

b) The property barrier. This barrier is based on the fact that information is owned by its originator and its publication and use therefore depends on the will of the originator. This is of particular importance in the field of literary and artistic copyright and industrial property. But often it is found that information is being hidden which could have been made public without interference with the interests of the originator. Here two possible actions may be of importance:
   - education of possible generators and owners of information in such a way that they would be able more clearly to distinguish between knowledge to be safeguarded and knowledge to be made available;
   - convincing owners of information that sharing larger parts of their information with other owners would broaden their information basis without necessarily reducing their potentials in economic or social competition. This is particularly a part the information service has to play.

c) The legal barrier. For several reasons governments have to govern the flow of information (i.e. security reasons). Often governments tend to be too restrictive in their respect (e.g. distribution and information about government publications, accessibility of government records). This is an area where the educator in the field of information and documentation is requested to educate future and current government officials to overcome some of these unnecessary barriers by liberal laws and regulations (e.g. by demonstrating them that this at the same time may lead to a much better information basis for themselves).

d) The time barrier. The time barrier is important in two respects:
   - information is ageing, that means that after a specific period of time it often is useless. Information consciousness would require the user always to check whether his information/knowledge is the current one or whether he/she has to find some new data;
   - it often takes a lot of time that information generated once is published or transmitted in an efficient way. Information services therefore are responsible to check continuously whether they transmit the information in a sufficient time span and how they can participate in improving the process of transmitting information from the very first stage of generation.

e) The efficiency barrier. This barrier again has two sides:
   - information transfer has to be efficient from the viewpoint of the information agency, that means no more effects should be put into information services than use would be made of. If the relation/ratio between effort and use is biased too much in the direction of the effort, society would be forced to abandon these services although perhaps better orientation of the service would have led to a better wage. This obviously is a question where training and education of system managers play a decisive role;

- usage of existing information agencies must be efficient from the viewpoint of the user as well; this means the efforts he has to undertake to use an information service must be met by an adequate amount of gain. By effort we do not only mean the economic efforts the user has to spend (charges etc.) but all the efforts he has to undertake: writing a letter, making a call, going to a library, waiting for the answer etc. Here user education is important: general user education may reduce psychological barriers (see below), system specific user orientation may reduce efforts being caused by ignorance. On the other hand, better user orientation of information services could reduce overall efforts.

f) The financial barrier. The financial barrier at the side of the information agency is well known as a general barrier of information transfer. Therefore we do not have to deal with this aspect intensively. In any case, the information agency has to find the optimum way between charges which are high enough to allow an efficient information and charges which are not so high as to be prohibitive. As far as the information agency is concerned, this is a matter of training of information specialists. On the other hand information consciousness would mean that users in general would be willing to pay the needed amount of money to get the information they want. This seems to be another important aspect of the information consciousness: information as a commodity has its price and the information-conscious person is able to estimate the price of an information and to know that he has to pay this price.

g) The terminological barrier. Information agencies have to take care of the terminological knowledge of their customers and not provide them with materials they cannot understand by means of terminology.

h) The foreign language barrier. This is a very important question and information agencies should be aware of providing at least a reference or referral system for their customers to allow access to translations and translators.

i) The reading capacity barrier. Users are not prepared and able to read every amount of material which may be provided by an information agency. Therefore measures have to be undertaken to allow users careful selection of material eventually to be read.

k) The consciousness barrier. Users tend only to seek information they suspect might exist. Therefore need monitoring mechanisms may be established to make clients aware that information exists which is of help to them.

l) The responsiveness barrier. The use of information depends on a user activity to make use actively.

Beneath these information barriers which act to some extent mainly on a general social level, some others have to be mentioned which effect the user as an individual, e.g.

- the space barrier. Often users are located far away from the information sources. The overcoming of this barrier does not depend only on the space itself but on the individual estimation as to whether overcoming of this space is worthwile compared with the value of the information (the economic aspect of information consciousness);
- the psychological barrier. Users or recipients are personalities with a rather fixed system of values, opinions, attitudes, preferences etc. This means that their information behaviour is guided not only by
  - the problematic situation creating the information need
  - external supplies (like money, space etc.)
  - quality of information services,

  but to a large extent by individual predispositions which may act as psychological barriers. Some of them are e.g.

- disliking of libraries
- shyness to talk about non-knowledge (this is the other side of information seeking)
- communication disturbances
- individual disliking of persons.

Obviously general user education can solve some of these problems if started early enough (in primary school), but system specific user orientation may add to overcome the barriers on an individual level if measurements are developed and standardized to find out the types of psychological barriers and methods which may help the individual to reduce his specific kinds of barriers.

4. Information propaganda

In each case of an individual having a specific information need undertaking some action of information behaviour, a specific set of barriers may be given. Obviously mental predisposition to analyse these barriers and to overcome them could be reduced by early and continuous general user education creating something being called "information consciousness".

Information consciousness is something the individual user may gain by socialisation. But even if he/she would be in the position to be an information-conscious person the other side - the information service - has to play its part in creating optimum opportunities for efficient information transfer. The following activities seem to be of importance for an individual information service:

a) information marketing: before starting an information service, the situation of the respective market has to be analyzed: which needs exist, which competitors are available, what kinds of information barriers are in existence and how they could be overcome;
b) need situation of information services: information services have to be adapted to user needs (which may not necessarily be their expressed needs). This could include the fact that conflict with user interests if users are not aware of their interests;

c) user education: if users are not aware of their information needs (based on their category of social work), user education is necessary. In this respect "user education" means to make the potential user aware of his own information needs and to show him how his individual information needs may be fulfilled by specific information services;

d) monitoring of user needs and user reactions to the information service: this is the most important aspect of user-system-relations since user needs and behaviours are changing, which leads to adaption of services or complementary actions;

e) information propaganda: each information agency whether as a public service or an "information broker" needs an increased awareness of the technical public of information of it. This could be called "information propaganda" thus indicating that each information agency must be interested in propagating the use of information services as such - not only the respective service itself. Information propaganda therefore is mainly an activity which could be enacted rather by groups of services than by single services;

f) public relations: contributions to information propaganda may be looked upon as a part of public relations activities in favour of the information agency or service. Public relations are all those activities which try to establish a favourable image of the information agency/service without necessary advertising its purchase;

g) advertising: in contract to public relations advertising does not only try to create a positive image but to convince or persuade a customer to subscribe to a service.

h) user training: user training tries to enable the subscribers to use the information service for their own purposes. In this connection user training does not include so-called "intermediaries" or "delegates" which professionally search data bases for ultimate users. Their training is considered a topic of professional training.

This whole range of activities related to user-system-relations indicates that in the future the simple term "user training" has to be replaced by a set of differentiated concepts, strategies and actions, which perhaps relate less to "education and training" but rather more to the general concept of "system/society-user-relations".

D. Education and training in different countries

Eser Erkmen
Türdok, Ankara, Turkey

TÜRDOK'S EXPERIENCE ON TRAINING OF INFORMATION SPECIALISTS

Abstract:
Türdok is the only organisation in Turkey offering training in information and documentation. Training programmes started in 1972 and are repeated every two years. Examples of courses and topics until some programme is included in university education.

Need of information services, in all sectors, is such a necessity that I do not see any point in discussing this; however, deficiency of educated manpower is one of the main infrastructural problems.

Turkey has the same problem. Information science has not yet been included into any academic curriculum in Turkey; therefore there is no possibility of education and training of information scientist and/or information specialist at university or post-university level.

At present there are two schools in the country which give Library education. They are:

- Ankara University, Faculty of Letter School of Librarianship,
- Istanbul University, Faculty of Letter Department of Librarianship.

Although there are undergraduate and postgraduate programmes in both of the faculties; they concentrate on conventional library education.

In 1974 a new step was taken and a new faculty was established:

- Institute of Librarianship and Documentation, Faculty of Post-Graduate Education of Hacettepe University.

This Institute gives B.A., M.A. and Ph.D. degrees in librarianship and documentation. However, conventional library education is more emphasized at the Institute. (Please see the curriculum of the Institute in the annex.)

So, at present, there is no possibility of education of information specialists in our own universities. Available specialists, who are working in the field of information, generally have been educated in other countries.

On the other hand, the need for information services has increased in the last few years. As a result of this need, organizations, both governmental and private, have felt the need for trained personnel.

Some measures in the 1974 and 1975 Executive Plans of the Third Five Year Plan, prepared by the State Planning Organization have been promotive for this topic to some extent. I should like to express that the State Planning Organization is the most important institution in Turkey. It is responsible for the preparation of the overall economic and social development planning of the country. The mentioned measures proposed by the State Planning Organization read as follows: "Specialized information units will be established within all public and private institutions on their respective subject-fields in order to promote the national and international information flow; and TÜRDOK will assist and guide these units."

The measures introduced more clarity into the problem of the creation of information units and accordingly into the need for personnel to be employed by these units.

Here, TÜRDOK, the National Documentation Centre responsible for the scientific and technical information services at the national level, has also been directed to searching for a solution for the lack of educated manpower in the field of information.

Some of the training activities of TÜRDOK are as follows:

- Publicizing the need and importance of information services at national level;
- arranging short and long-term, general and specific courses as a contribution to the training of manpower in the related field;
- providing possibilities for on-the-job-training;
- organizing seminars, conferences, and other meetings, and participating in such activities.

The first training course within these activities was arranged in 1972. The aim of this course was to introduce sources of information, basic principles and methods of acquiring, processing and disseminating information for the person who was and/or would be employed in this field.

100 government employees have participated in this course and were presented with certificates. The course duration was one month.

The admission requirements to the course were:

- having a university degree
- knowledge of one foreign language, preferably English.

Some of the lecture titles of the course programme were as follows:

- "The Problem of Educated Personnel in the field of Documentation"
- "TÜRDOK: National Documentation Centre of Turkey"
- "What is Documentation? Importance of Documentation and Documentation Units"
- "History of Documentation"
- "Kinds of Documents"
- "Classification Systems"
- "Subject Analysis, Abstract Preparing"
- "Dissemination of Information"
- "Selective Dissemination of Information"
- "Methods of Document Copying".

The second course, of the same type, was arranged in 1974 and once again for the government employees. The course duration was two weeks and was attended by 25 participants having the same qualifications.

Lecture titles of the second course programme included the following topics:

- "What is Information, Documentation, Librarianship? Why they are necessary?"
- "Organizational Information flow and Information Services"
- "User Groups and their needs"
- "System Analysis"
- "Classification Systems"
- "Dissemination of Information"
- "Literature Search"
- "Document Providing Photoreproduction Service"
- "Coordination and Cooperation of the Services"
- "The Role of Communication in the field of Information"
- "Public Relations".

The majority of the second course lecturers were selected from TÜRDOK specialists.

Due to the increasing demand and urgent need for such training courses, it is now under consideration as to whether general courses, which have been held once in every two years up to now, should be arranged every year and perhaps also be held separately for industry and governmental sectors.

As stated above, within the measures started in the Executive Plans of 1974 and 1975, the creation of specific information units in public and private sectors was laid down. Thus TÜRDOK tries to assist the information units established and/or under establishment by consulting, recommending, preparing reports and furnishing on-the-job-training possibilities. Up to now about 40 organizations applying to TÜRDOK for advice, have

been assisted and some of their personnel were provided with on-the-job-training. However, the increasing demand resulted in limitation of on-the-job-training possibilities and therefore it was decided to arrange specific short-term courses mainly based on practical studies.

- "Literature Search"
- "Classification Systems"
- "Universal Decimal Classification and Methodology of its Application"
- "User Studies"
- "User Needs"

can be listed as some of these specific courses.

In order to be able to carry out the above described training activities, TÜRDOK lays special emphasis on the training and education of its own staff. All of the information specialists are sent abroad for training in and observating of the services and activities of similar organizations.

Academic training abroad is also provided for in some cases. Training and/or refresher courses are organized at TÜRDOK. Examples of this are:

- "Teaching Methods"
- "Methods of Using Audio-Visual Media".

This course was also attended by participants from other related Institutions.

Three courses are schedulded for this year within the technical assistance project provided by the United Nations Development Programme (U.N.D.P.) and the United Nations Industrial Development Organization (UNIDO). They are as follows:

- "Patents as Sources of Information"
- "Technical Publications/Technical Information"
- "Trade Literature".

It is obvious that all these efforts can not be more than a tentative solution to the problem; and they are far from being

sufficient when compared with the real requirements. Nevertheless, until a faculty or institute is established, TÜRDOK will carry the responsibility of training information specialists and will continue offering the above services and more developed programmes.

We hope that our efforts will stimulate the interested authorities to give the required importance to the subject and to take necessary measures for the inclusion of information science in the university curriculum as a separate academic discipline in the near future.

However, even if this realized, we feel at TÜRDOK that there will be a need for short-term refresher courses for updating the knowledge of existing specialists and teaching staffs in order to be able to catch up with the ever-advancing field of information science.

On the other hand, TÜRDOK is in direct contact with information users in science and technology and is in an position to identify users needs and demands from information services and specialists. Therefore, TÜRDOK will continue, in the future, to conduct short-term courses on specific topics oriented towards users requirements.

Thank you.

ANNEX

Curriculum of the Institute of Librarianship and Documentation, 1975-1976

- Undergraduate Level -

FIRST YEAR

Semester I	Credits
English	3
Introduction to Librarianship I	3
Statistics I	3
Introduction to Psychology	3
History of Science	3
Ottoman Turkish Language	3

Semester II	
English	3
Introduction to Librarianship II	3
Statistics II	3
Introduction to Social Anthropology	3
Field Activities in Linguistics	3
Ottoman Turkish Language	3

SECOND YEAR

Semester I	
English	3
Reference and Bibliography I	3
Cataloguing and Classification I	3
Research Methods	3
Selected Foreign Language (Arabic or Persian)	3

Semester II	
English	3
Reference and Bibliography II	3
Cataloguing and Classification II	3
Library Processes	3
Selected Foreign Language (Arabic or Persian)	3
Cataloguing and Classification - Application	1

THIRD YEAR

Semester I	Credits
Type of Library I	3
Introduction to Electronic Data Processing	3
Selected Foreign Language (Arabic or Persian)	3
Selected Foreign Language (German or French)	3
Cataloguing and Classification - Application	1
Reference and Bibliography - Application	1

Semester II	
Type of Library II	3
Serials	3
System Analysis	3
Selected Foreign Language (Arabic or Persian)	3
Selected Foreign Language (German or French)	3
Cataloguing and Classification - Application	1

FOURTH YEAR

Semester I	
Rare Books and Librarianship of Rare Books	3
Other Materials than Books	3
Management Techniques and Rules I	3
Computer Programming	3
Selected Foreign Language (German or French)	3
Cataloguing and Classification - Application	1
History of Revolution	0

Semester II	
Rare Books and Librarianship of Rare Books	3
Management Techniques and Rules II	3
Automation of Information	3
Selected Foreign Language (German or French)	3
Reference and Bibliography - Application	1
History of Revolution	0

Rafael Rodriguez Delgado
Madrid, Spain

TRAINING IN DOCUMENTATION AND DOCUMENTARY INFORMATICS FOR HISPANOAMERICA

Abstract:
Documentation and computer sciences suffer from a lack of communication. This problem came up in training in relation to the Latin American Center of Economical and Social Documentation (CLADES). Further developments should use Spain as a bridge between Latin America and Europe.

1. Relationship between documentation sciences and informatics

Documentation sciences and electronic data processing experts, even when considered as "specialists in communication", suffer in fact from lack of communication.

They use different technical languages and usually, when they meet, they do not know about what their counterparts are talking about.

I was confronted with this problem, teaching a documentation course for staff mambers of the Madrid' "Instituto de Cultura Hispánica", and previously at the Latin American Center of Economical and Social Documentation (CLADES), of the UN Economic Commission for Latin America (ECLA).

To solve it, I sought the help of EDP specialists for the teaching of the elements of computer science and informatics, trying to integrate these fields of knowledge with documentation sciences. The result was teaching about "Informática documentaria", or informatics for documentation.

The application of the General Systems Theory was a great help for this purpose and its integrative concepts were introduced in four seminar meetings.

2. Need of a training system for the Spanish language

No training in documentation is possible without developing documentary languages. Descriptors lists and macrothesaurus must be based on the linguistic and semantic structures of each natural language in order to obtain inner consistency and a good correlation with other natural and documentary languages.

The Spanish version of the OECD macrothesaurus by CLADES - with the cooperation of the "Instituto Interamericano para las Ciencias Agrícolas" (IICA) for the agricultural terms - was a first step in this direction. Now the Madrid "Instituto de Cultura Hispánica" (ICH) has drafted a preliminary Descriptors list and is working on a project of a Spanish macrothesaurus for the economic and social sciences, correlated to the OECD macrothesaurus and the UDC.

3. Education and research for the Spanish language area

Spain may act as a bridge between Latin America and Europe for training in documentation and in EDP for documentation.

Many educational institutions, research centers and international organizations have their headquarters in Europe and are excellent sources of "documentation about documentation". The International Bureau of Informatics (IBI) has recently sponsored a seminar about the possibility of establishing training centers for informatics in the Spanish speaking areas. UNESCO has sponsored seminars and other meetings related to documentation in Spain.

The ICH has developed a set of computer packages for documentation, IBERDOC-A, IBERDES, IBERTES, and is installing the ISIS/OIT system.

Education and Research may have therefore the necessary EDP back-up in Madrid.

Madrid is also the headquarter's of CITEMA, a foundation for promoting the knowledge of informatics, especially interested in Iberoamerica; FUNDESCO is another foundation which studies the social impact of telecommunications and telecommunication networks. All these elements may be coordinated, with the help of FID/ET, in order to study the feasibility of establishing a center for training and research in documentation and documentary informatics for the Latin American and Iberi speaking areas.

Thomas Seeger/Gernot Wersig
Freie Universität Berlin

THE STUDY OF INFORMATION SCIENCE AT THE FREE UNIVERSITY OF BERLIN, FRG

Abstract:
The distinction between information practitioner and information science is basic. According to the specific situation of the German university several alternative possibilities are given to study information science. The basic programme is specified.

1. The only meaningful way of assessing the specifications of a university course in Information Science is to see it in relation to the appropriate national educational system.

   The university entrance requirement in the GFR is a general school education lasting 13 years and terminating in the Abitur (equivalent to the French bac). The period of Study lasts a minimum of 8 semesters (4 years) respectively usually requires five years study at the University. Furthermore, especially in the Arts and Social Science it is compulsory to study several subjects, i.e. one major and one or two subsidiary subjects to be chosen at will. The university course terminates in an M.A. or Diplome and it is possible to study further for a doctorate. The course in Information Science at the Free University Berlin, described in detail in the following paper, has been formed by these basic criterie.

2. In general, study of information science at Free University Berlin (FUB) may be directed to two occupational areas:
   a) information practitioner (information workers on the professional level which needs a combination of methodological and subject knowledge. This does not include librarians and archivists for which special programmes of formal training exist);

b) information scientist (i.e. systems designers, researchers, system managers).

3. Education of information practitioners.
Since the German educational system does not provide lower degrees than the Master's level formal university education (after 13 years of school) the course has to be done in a minimum of 4 years. This allows two possibilities for the education of information practitioners in university institutions:

a) main study of a subject (as a major) and parallel to this information science (as a minor). This is possible only in subjects where respective programmes permit parallel studies (i.e. in the social sciences, but not in most biosciences, natural sciences or technological studies);

b) first study of a subject up to a Master's degree level (or equivalent level, i.e. diploma at university level) and than adding a postgraduate program of information science (applicable in particular to subject areas where no parallel studies are possible). This would lead to no new degree (since the person already holds the Master's level degree).

4. Education of information scientists.
Information science at the FUB is located in the department of social sciences and philosophy and leading (if studied as a major subject) to a M.A. degree. This means that a programme leading to the M.A. degree is a parallel study of at least two subjects (one being the major in which the thesis is written). According to this situation three basic possibilities are given:

a) parallel study of information science as a major and one or two related subjects as a minor (e.g. computer science, linguists, management, mass communication);

b) study of a specific subject (preferably a related one), followed by a postgraduate program of information science. This would lead to no new degree;

c) completion of Master's programm in information science, followed by a doctoral program in information science (leading to Ph.D.).

5. The curricula are based on the curriculum of the Master's program for information science (3.a). This is divided into two parts (each 2 years, each 50 % of whole study time)

a) basic part, comprising the following course types

- introductory colloquium
- basic courses: techniques of scientific work
  empirical research and statistics
  information technology
  language and communication
  political economy
- basic colloquia: introduction to information science
  methods of documentation
  documentation languages
  sociology and politics of information
- practial exercises: (e.g. indexing, abstracting, retrieval)
- seminars on topics of: documentation languages
  sociology and politics of information

b) main part, comprising the following program elements:

- seminars on: documentation languages
  sociology and politics of information
  information technology
  systems design
  (with emphasis on the last two topics)
- participation in a research or development project of the institute (at least for two semesters).

This program is designed for cases 3.a) and 3.b). For case 3.c) no special program has been designed, the program would be tailored to the applicant.

6. The program for 2.a)/b) (information practitioners) would basically be

   a) completion of the basic part (4.a) except those courses of equivalent standing which have to be taken in other parts of the study (e.g. in the major subject);

   b) completion of
      - 3 advanced seminars of the main part (4.b)
      - 2 additional practical exercises.

   These students usually would be offered the degree of their respective major subject.

7. The program was designed in 1973/74 and is being tested in 1975/76. An official recognition of government authority within Berlin (West) is expected for 1976. This then would be the first full scale program in the Federal Republic of Germany.

Jan Droog
Nobin, The Hague, Netherlands

PROBLEMS OF TRAINING INFORMATION SPECIALISTS IN THE NETHERLANDS

Abstract:
A distinction is made between training and education. A scheme is established: levels of schooling (university, secondary, primary), profession (archivist I, II, scientific librarian, librarian, assistant librarian, documentalist, specialized librarian) is applied to the Dutch facilities, problems are outlined.

1. A few terms

Information: knowledge transmitted in a process of dissemination (information is information when it is made use of)

Training: the systematic $\frac{\text{transfer}}{\text{acquisition}}$ of knowledge, skills and attitude in order to enable a person to act effectively in his profession

Education: the more or less systematic $\frac{\text{transfer}}{\text{acquisition}}$ of knowledge, skills and attitudes in order to enable a person to act with the optimum effect in society.

THERE IS NO TRAINING WITHOUT EDUCATION
THERE IS NO EDUCATION WITHOUT TRAINING
SCHOOLING = TRAINING + EDUCATION

2. Levels of schooling (education)

University level: postgraduate
doctorate (master degree)
bachelor degree

Secondary level: higher vocational (professional) training
higher general education
lower vocational training
lower general education

Primary level:	elementary education infant school	

3. Training information specialists

- State school for archivists	postgraduate level (NO DEGREEE) higher vocational level	- archivist I - archivist II
- University	postgraduate certificate (NO DEGREE)	- scientific librarian
- post bachelor	part time course	- literature searcher
- library academy and part time courses	higher vocational training	- librarian - assistant librarian - documentalist - specialized librarian

State-School for archivists: generally a university degree or equivalent is required to be accepted as a student (archivist I).
For archivist II pre university or higher general education is needed.

University of Amsterdam: part of the faculty of literature. Students for a degree can obtain a two-year training (one year before and one year after the doctorate) in "Information science". This enables them to work as librarians in university libraries. They obtain a "certificate" and are in fact "subject-specialists".

Part time course C:	based on a bachelor-degree; a student can get the qualification "literature-searcher" after two years of training (one day every week).
Library Academy:	there are six academies. To be accepted as a student one has to have the leaving-certificate of an institute for higher general education. You can be trained for: librarian documentalist librarian in special libraries school-librarian etc. Part A: two years of study (ass. librarian) Part B: one year of study (librarian, specializations)
Part time course A and B:	A private institute enables students, working in libraries, to obtain most of the abovementioned certificates. They have to have a certain amount of practical experience and to be in the possession of a certificate of lower general education. Duration: 2-3 years (2 to 3 days a month).

4. Problems

a) In the Netherlands up to now it is impossible to get a degree in Library or Information Science.
b) There are no facilities to be trained for "lower jobs" in libraries. So very often quite simple work most be done by qualified library-workers or by people not specially trained for work in libraries.

c) During the study-period at library-academies, students obtain a certain amount of in-service training. It is often difficult to find adequately equipped libraries which offer the facilities that are needed and at the same time have the staff to guide the students. Should in-service training preceed the theoretical training or should it start after a certain period of study at the library academy?

d) Teachers at library academies, at part time courses and even at the university are mostly not professional teachers. They are specialists in the field of handling information, but do not have a qualification for teaching based on training for a teaching job.
Being a teacher is a matter of talent.
Good teachers are born, not made. But they will be very good teachers when they are trained in the educational-psychological and didactical aspects of teaching.
Bad teachers will remain bad teachers even with this kind of training. At the utmost they will be a little less bad.

This is a real problem. Fortunately the Government will start special courses next year. But this is not sufficient!

e) There seems to be a noticeable discrepancy between what is taught in the training institutes and what is required in practice.

"positive" discrepancy: one was taught more than what is asked for in practice

"negative" discrepancy: one was not trained in aspects of the job that practice requires
one has to do things which in fact are "below the level" of one's qualification.

f) Economical problems. As the consequence of the democratization of public libraries (scholars need not pay for borrowing books) the amount of customers has increased where as at the same time there is a limitation of staff.

g) There is no systematic and integrated education of the user of information.

Jerzy Steszenko
National Center for Scientific, Technical and Economic Information, Warsaw, Poland

EDUCATION AND TRAINING OF PERSONNEL IN THE SPHERE OF LIBRARY SCIENCE AND SCIENTIFIC INFORMATION IN POLAND: THE PRESENT STATE AND DEVELOPMENT IDEAS

Abstract:
Study programmes in the domain of library science and scientific information have been developed successfully (4 years, at 15 schools, capacity per year 1.135 students). Another level are that of vocational post-secondary school education, correspondence courses in librianship. Particular emphasis is placed in refresher courses.

The dynamic socioeconomic development in all walks of life in Poland is incessantly accompanied by the universal development of science.

In the present development of Polish science, one can distinguish three compatible and parallel trends:

- the first encompasses the fields with many years tradition, going back to the past century;
- the second comprises the fields the development of which have started within the past 20-30 years;
- the third includes the fields which have been shaped and developed during the recent years, i.e., at the end of the sixties and the beginning of the seventies.

In this most recent and growing trend library science and scientific information find their place.

Although the tradition of developing and operating the libraries is great in our country, and had a significant influence within the centuries on the spreading knowledge and advancement of culture, library science was not cultivated on a broader scale as a scientific discipline.

Scientific information is an entirely new domain and its present stage could be termed as the directed strenghtening of bases along with the search for perspective advancement ideas.

Research and considerations assenting to a relationship of theoretical bases of library science and scientific information that had been initiated a few years ago, resulted in a decision to create and develop studies in the domain of library science and scientific information. At the same time it was accepted as a rule that intensified multidirectional actions would be undertaken within the whole country, as opposed to a slow development by stages.

At the present we can state from retrospective view point that these solutions have proved to be successful. This can be seen through the following information:

1. Studies in the domain of library science and scientific information (of 4 years duration), are carried on in 15 higher schools situated within the whole country:
   a) at universities in Warsaw, Poznań, Cracow, Katowice, Wroclaw, Lódź, Gdańsk, Lublin and Toruń;
   b) at teachers' training colleges in Cracow, Bydgoszcz, Kielce, Olsztyn, Zielona Góra and Szczecin.
2. The limit of admittance to the 1st year of studies at all the mentioned schools is 1.135 students annually, and in this figure 550 attending intramural studies, and 585 extramural students.
3. At present there are 2.270 persons studying, and we expect that starting from the academic year 1976/77, in which the limit of admittance will be a bit higher, this specialization would be studied by close to 3.500 students.
4. In addition to the ordinary studies in the higher schools there are also the other forms of studies, such as 3 years postgraduate studies (at universities in Warsaw, Poznań and Gdańsk), and three interfaculty Master's studies for students of other specializations (at uni-

versities in Poznań, Lódź and Cracow). Annually on an average there are 155 persons included in these additional forms of university education. This figure will be increased in the coming academic year by over 60 persons, due to the opening of three more postgraduate studies, of which two are in library science and scientific information, and one in scientific information only.

In the process of efficient teaching the programme work is becoming important, especially the one connected with the elaboration of study programmes, control of their realization and effectivity, as well as concepts relating to the perfectioning of contents and methods of teaching. All these factors are of the utmost importance, because they influence to a great extent the degree of preparation of graduates for their work. That is why measures were undertaken,too, to modernize those programmes, in order that the preparation of graduates to the present-day task of libraries and for the scientific information centres, be more and more close to the current needs.

In the actions aimed at the modernization of programmes of studies, the scientific information is an inseparable element, and will remain so in the immediate future. Consequently a rule has been set forth that every subject of study in library science is tied up with knowledge in the field of scientific information and grounded on this knowledge.

Among the development conceptions which include education at the level of higher schools, it is anticipated to establish as soon as possible the mentioned line of studies in two more schools. Also the education and reinforcement of the young scientific personnel calls for further endeavours to have them precisely specialized in the field of library science and scientific information. This group, having as a prospect the possibilities of obtaining degrees and scientific titles will within the coming years finally fix the basis for further development both for the scientific centres it comes from, and

for the appropriate fields of science. Conducive to this process will be the additional arrangement of scientific trainings abroad and improvement of ties of scientific personnel with the library work and with centres of scientific information.

In the system of vocational post-secondary school education, intended for the graduates from the secondary schools, technicians documentalists, specialized in documentation and scientific, technical and economic information, are trained.

The post-secondary school two years vocational studies are carried out in Warsaw, Chorzów, Gdynia, Kielce and Kolobrzeg, and their curriculae include general and special subjects. Now that these schools have already existed for a few years, one could say that every graduate from the post-secondary school study is prepared for independent performance in or organization of documentation work and for auxiliary tasks pertaining to elaboration and transmission of specific information. It has to be added that the most urgent requirements for personnel, with 100-120 graduates applying for work annually, have virtually been stilled.

The process of training the workers employed in libraries and who have secondary education has been done mainly by two centres: the Librarian Training Centre in Jarocin and the State Centre for Correspondance Courses in Library Science in Warsaw. At these two centres, nearly 25 thousand people have obtained or perfectioned their vocational qualifications during the past twenty years at various courses (lasting two years, a year and a half or shorter periods).

In addition, the training is carried out to some extent in four posts intended for the training of culture workers, and situated in Wroclaw, Ciechanów, Opole and Krosno; each of these acts as a cultural and educational study centre. The training lasts two years, and the graduates, numbering over one hundred annually, obtain qualifications at the level above the secondary one, what creates possibilities for them to be employed in the capacity of senior librarians.

Starting from February 1975, the State Centre for Correspondence Course in Library Science has organized - in place of former courses - and runs the post-secondary School of Librarianship. The theoretical knowledge transferred to the students and coupled with their practical experience, is a guarantee for the improvement of their vocational knowledge, and gives a chance to several graduates for further studies at higher schools.

The role and functions carried out by libraries nowadays, as well as long-term assumptions in this sphere, invite further undertakings in the direction of the vement of the system and the methods of library work. It is closely connected with the care for more authority and a better vocational standing of librarians, and this could mainly be shaped against the background of true knowledge which in turn will be enriched by numerous new elements coupled with the general progress and advancement of science.

This is why an idea is under consideration to set up, in coming years, technical schools for training in library science and scientific information. These schools would be mainly situated, due to the social need for their graduates, in such places where scientific posts and higher schools are.

At the same time a continuous improvement in vocational knowledge is imperative for all working librarians if they want to stay on in the profession. The fulfilment of this condition will form a genuine guarantee for the development of the libraries and their performance.

Training through refresher and specialized courses has the utmost influence on the improvement of knowledge in the field of scientific, technical and economic information. Such training is being carried out, on a nation-wide scale, by The National Centre for Scientific, Technical and Economic Information which performs, at the same time, a leading and co-ordinating role for all actions in that sphere.

Among the many forms of the training the most essential ones are: basic courses of three weeks duration; correspondence advanced courses lasting a year and a half, as well as courses, conferences and special subject seminars, meant to increase participants' knowledge in a given field.

The basic courses are organized for such workers of scientific, technical and economic information centres who have no vocational background in this field, as well as for persons who intend to work in the centres.

The principal form of training at these courses consists of lectures and practice, and the tuition terminates in a written and oral examination the passing of which leads the students to appropriate certificates.

The advanced courses constitute a higher form of improvement in the workers' knowledge. These courses are intended for persons with higher education in various disciplines who had attended the basic course and have worked for at least 3 years. In the framework of the course every month a two-day school at consultation posts is arranged which are situated throughout the country; the control of the tuition results is carried out during the mentioned school and at the final examination. The course programme contains a rich choice of themes and essential knowledge, and, besides subjects from the sphere of scientific information and librarianship, comprises also, i.a., such subjects as: documentation processing and information publications, science of science, editing, keeping of archives, linguistics, logics, psychology, sociology, cybernetics and some selected computer issues.

This programme bears somewhat upon the curriculum of the postgraduate studies in higher schools.

Where a need or problem arises there are organized courses, conferences and specialized seminars, in order to further knowledge on some chosen issues in scientific information. The relevant programmes are elaborated according to themes dealt with, and strictly follow the aim of the given course, conference or seminar.

All in all, 1.100 persons have been trained in 1974 and 1975 through courses and by means of other forms of training organized by The National Centre for Scientific, Technical and Economic Information. This is an important achievement, the current purpose, however, resulting from an analysis of requirements in the sphere, prompts further actions, with the view to broader training scope, and from year to year more workers involved in all forms of training.

In this connection it should be pointed out that information workers' knowledge is constantly improved by way of attending - under co-ordination by The National Centre for Scientific, Technical and Economic Information - two month courses which are organized by the Institute for Qualification Improvement of Information Workers in Moscow. 230 Polish scientific information service workers had already raised their qualifications in this way in 1974 and 1975, and for the current year it is anticipated that a group of 200 workers receive training in the mentioned Institute. Assumptions and former experience indicate that this figure will grow in subsequent years.

In the current year, independent from the training of personnel in the said Institute, an extra-mural training will start in Warsaw, based on the programme of this Institute, and with participation by its lecturers. The training will take place in one year cycles, and comprises in the beginning, two special items: "Organization, economics and planning of the scientific and information activity", and "Mechanization and automation of information processes".

All considerations relating to development perspectives embodying training and improvement of personnel as already presented, lead to a conclusion about the necessity of a speeded up pace and a larger scale of actions.

Such tasks are closely linked with the prognosis for the development of scientific, technical and economic information in Poland by the year 2.000, and I am confident that the basic factors of this prognosis in the part relating to training could be attained before long.

E. Education and training in Spain

David Torra Ferrer
Instituto de Información y Documentación en Ciencias Sociales y Humanidades, Madrid, Spain

(Title and text not submitted)

Jose Lopez Yepes
Universidad Complutense, Madrid, Spain

NOTES ON THE INFORMATION SPECIALIST TRAINING AT THE FACULTY OF INFORMATION SCIENCES IN MADRID COMPLUTENSE UNIVERSITY

Abstract:
At the university mass communication specialists are trained for five years. One year of it is devoted to information and documentation problems. For this one year a programme has been created and is exposed.

(Due to technical reason the paper is provided in the following as the original manuscript)

I. INTRODUCTION

1. Aims of this paper

The objectives of the present paper are the fruit of personal reflection during the present academic year, together with ideas suggested by pieces of work I have been engaged in during the last year. I shall study the general approach, correlative activities and scientific aims which the legislation had in mind when they decided to include Documentation Science in the programmes of studies in Information Science. In this country and, in principle for this, it coincides with the field covered by the Sciences of Social Communication. Information, Social Communication and Training are the concepts I am thinking of. There are two possible perspectives which can be followed: one can be objective dealing with universal concepts in a general scientific field and the other subjective, from the moment in which it becomes reality as part of a university course in a particular faculty. In our case this is the Faculties of Information Sciences which function in the Complutense University of Madrid, with three branches or sections (Journalism, Sciences of the Visual and Aural Image, Publicity and Public Relations), in the Autonoma University of Barcelona (Journalism, Publicity and Public Relations) and Navarra University (Journalism).

Following these two perspectives, it would seem appropriate to consider in this introduction the general evolution of the concept of training of the information specialist, its practical realization in teaching and also the situation in this country, even though these considerations will be kept brief as they infringe somewhat on the subjects of study of other members of the Meeting. In both problems there exist many possibilities of ambiguities in terminology which have given rise to quite a few works of this nature (1).

In the second part of these notes I have tried to ascertain the situation with relation to the inclusion of Documentation in our Faculties of Information Sciences by looking at the precedents, the plans of study and their development, and finally their objectives which naturally aim to train a type of information specialist with certain specific characteristics.

2. The concept of training the information specialist in the field of teaching

The concept of training of the information specialist has evoived as a logical consequence of the concept of documentation itself, and paralled with it. The concept of documentation has been problematic as regards both content and form. It has generally been studied from the point of view of the science of librarianship and of information. There is a considerable but incomplete bibliography on the subject of documentation and everything pertaining to the training of the information specialist. From Otlet and La Fontaine, this double problem has been a great cause for concern and has occasioned a large number of polemics which have been formed into numerous works by wellknown experts. Even today, work is being carried out to reach some sort of uniformity in the concepts affecting scientific information.

In the case we are dealing with: carrying out, in the teaching field, the training of the information scientist there have been many efforts to clarity the problems, not only from the institutional point of view or that of organization but from that of experts and researches. On this side, I should mention as an example, without forgetting other institutions, the activities undertaken by the International Federation of Documentation which has had in its charge since 1.953 the FID/TD Commission (Training and Documentalists) reorganized in 1.959, and named FID/ET (Education and Training) in 1.971 with new aims defined in the Council of the FID which took place in The Hague in March 1.973 (2). The activities of the FID either di-

rectly or through its ad hoc Commission, can be seen in the publication of: a) Minutes of Meetings, Lectures and Seminars (3); b) Manuals on Information Science (4); c) Guides of teaching institutions (5); and d) Diverse material (6). In the group of the said publications I would note as the most important the "Guide to training facilities" 1.965 and the Proceedings from the International Conference on Education for Scientific Information Work (1.967) perhaps the most important starting point for the FID in this field. Already in 1.965 the American Documentation Institute had organized a Symposium on Education for Science (7).

As regards the experts and investigators in this subject with their respective contributions I could mention the authors Vicentini (8) lists, like Cohan and Craven (1.961) (9), Farradane (1.961, 1.969) (10), Winger (1.965) (11), Hayes (1.964, 1.967, 1.969) (12), Wasserman (1.967) (13), Sabor (1.968) (14, and Rees (1.969) (15), all of whom present the different possibilities the teaching of Documentation should offen; considering present needs. Together with the authors quoted here, I should put the work of the German Pietch and the Mexican Garza Mercado. Pietch, in a study published in German in 1.965 and translated into Spanish in 1.966 (16), gives an outline of the most generalized movements in the training and plans of study of information scientists, making a special point of the distinction between "special librarian" and "information scientist", suggesting that the latter is closed to the scientific researcher. Garza Mercado in his article of 1.974 "The Science of Information in the School of Librarian Science" (17) begins from the concept of the Science of Information as defined in the Conference of the Institute of Technology held in 1.961-1962. After some notes on the concept and its consequences he traces the classifications of the Science of Information on the theoretical side with the opinion of Klemper (1.969) (18) and Artandi (1.969) (19) and on the pedagogical side as the basis for teaching plans with models supplied by Hoyt (1.969) (20), Belzer (1.970) (21) and Wyllys (1.972) (22). In the next phase of his study he explains the point of view used in the studies of In-

formation Science in the Schools of Librarian Bibliotecology Science the different programmes adopted in different schools and the text books generally used. In his conclusion Garza Mercado shows the necessity to include Information Science in the Schools of Librarian Science and outlines the necessary steps to fulfil this need.

In Spain the panorama of studies on the training of the documentation scientist and their putting into practice in my opinion is not as well established as it could be despite the tradition of our bibliographic studies on the one hand and the necessity to join the most advanced technological and scientific development on the other. In 1.962, Sánchez Belda was still pointing out the "novelty" of documentation in Spain when he statet that "the problem of documentation... is beginning to worry us" (23) and suggested the lines on which the formation of the information scientist could be based. Following the four phases the author sees in the process of documentation (locating and gathering together the documents; recording, extracting pieces of news, placing in order and classifying; diffusion, conservation) the training of personel should be scientific and specific in relation to the first two ones. So the information specialist should have the two types of training.

Lasso de la Vega the only Spaniard who has written a Manual of Information Science studies two tendencies in the training of the information scientist: the training of the librarian and the training of the scientist which produces the Information Scientist or Information Specialist (24). In numerous works the author has continually defended the necessity - to develop the studies and training of the personal working in documentation. In the Second National Conference of Libraries (25) he suggested, among other conclusions, extending documental teaching and practice at all levels, improving the School of Information Specialists by giving it greater possibilities and adding subjects more specifically to do with information science and creating Departments of Studies of Documentation in the Arts Faculties.

Very recently Pérez Alvarez-Ossorio, Director of the Institute of Information in Science and Technology of the CENIDOC (Centre Nacional de Información y Documentación Científicas), once again brought up the subject of the present concept of Documentation and its implications in the networks of national scientific information. He defined, together with the research scientist, the scientist, the scientist who applies his knowledge in business as information scientist that is to say a scientist specialized in information. The author reminds us of one of the conclusions, which is important here, reached by the basic document on information science in Spain, drawn up by UNESCO: "Recognition of the professional status of the scientific documentalist, or rather information scientist. This is a term which has not yet been translated into Spanish, but which defines the person with a basic scientific training who has acquired the modern techniques of Information and Documentation" (26).

Despite the growing interest in Spain if we consulte the "Guide to the world's training facilities in Documentation, and Information Work" (1.949) we find that it only includes two organizations related to the training of the Information Specialist: The Escuela de Documentalistas (School of Information Scientists) founded in 1.953, which offers two levels of studies and gives the certificates of "Assistant in Documentation" and "Information Specialist", the latter for students who already have degrees. The other is the "Instituto de Racionalización del Trabajo" (actually "Instituto de Racionalización y Normalización"), which has offered different courses of training in this field since 1.960 (27).

In the Complutense University in Madrid Faculty of Philology there is a Professor of Bibliography at present Dr. D. José Simon Díaz who has outlined a short history of the subject in a recent bock of his (28). It began in the Higher Diplomatic School, to train archivists, librarians and antiquarians (R.O. 7-10-1.856). Then its teaching was extended to include what is called either Bibliography of Bibliology (R.D. 15-7-1.863) which

was recommended to librarians of the National Library (R.O. 29-9-1.863). In 1.900 by R.D. of 20-7-1.900 the Higher Diplomatic School was becoming extinct and the Bibliography was incorporated into the Arts Faculty in the Section of Literary Studies, under the name of Bibliology. In the Plan of Studies of the Faculty laid down by R.O. of 10th May 1.928, the subject was included in 1.931 (D. of 5th September) the name was changed back to Bibliography. From 1.940 to 1.968 the Professorship remained empty until in 1.970 it was occupied by Simón Díaz. At present the Professorship undertakes numerous activities and it can be said that is one of the focal points for bibliographic studies in this country (29).

II. THE TRAINING OF THE INFORMATION SPECIALIST IN THE FACULTIES OF SCIENCES OF INFORMATION IN SPANISH UNIVERSITIES

1. The role of Documentation in the different fields of teaching in the Faculties of Sciences of Information

In a recent work (30) I ennumerated the different elements which make up the general lines in Documentation covered by our Faculties of Sciences of Information. They are laid down from three different perspectives: from that of the classification of the Information Sciences in which, following the most generally accepted models, Documentation appears as Science of Information, that is, as a science of the sources of information; from the perspective of Documentation Science as genuine information, that is, information about information, since the documents dealt with by Documentation are themselves carriers of information, and finally the problems relative to the practical insertion of Documentation in a university plan of studies. These problems fall into two general groups: 1) the necessity to define Documentation Science, to limit its fields of action, both the general field, and the specific areas dealing with problems of the Sciences of Social Communication, and 2) the necessity to endow this discipline, which falls into the field of university studies, with a strictly defined content. Following these two lines of throught should lead into a more efficient application of documentary science and techniques to the area of knowledge formed by the Sciences of Social Communication which is taught in Spain in the Faculty of Information Sciences under this name. These definitions must obviously be taken into consideration when a programme of Documentation is being drawn up and information specialists are being trained.

2. The Programm of Documentation in the Plan of Studies of the Faculty of Information Sciences of the Complutense University of Madrid

The Plan of Studies of the Faculty of Information Science for the Complutense University of Madrid was passed by the Ministry of Education and Science on the 18th october 1.975 (B.O.E. 21-10-1.975, pp. 2.212-3). In the fifth and final year and for each speciality, the study and application of the subject of Documentation forms part of the Area of Informative Undertaking.

The subject was put into the hands of the lecturers Del Corral, Carrascosa and López Yepes who decided to divide it into two parts: 1) the teaching of a Programme of basic lectures completed by 2) practical research carried out by the students. The programme consists of 40 lessons divided into 3 basic parts (31): I. Concept and History. II. Sources of Information and their application in the field of Information Sciences, and III. Documentation and Bibliographic Techniques. The second and third parts obviously contain subjects which are found in all the different branches of the Degree-course. An important part of the organization of the subject are visits to centres for documentation of scientific information and documentation centres of different firms dealing in mass-communication. The subject for obligatory research by the students have been kept as wide as possible and have always had the double objective of filling a gap in a certain techniques. Thus the pieces of work in question have covered subjects like bibliographies on particular subjects; summaries of basic material for a thesis for a Degree or a Doctorate; studies in bibliographic indexes of periodicals; reports on the organization and functioning of Documentation Centres etc.

3. Aims in the Training of the Information Specialist

It is obvious that every science for its own progress and development needs access to all the sources of information which

may serve as a bases in the acquisition of fresh knowledge. Thus, scientific Documentation establishes the bases to make this possible in all of the different branches of knowledge.

So the question is what role does Information Science play in the Faculty of Information Science. In the first place the informative side of Documentation, the Science of Documentation makes its place in a Faculty of this type obvious. Besides this the student thaught in the Faculty should at the end of their course be able to count on two sorts of skills: 1) the knowledge of the sources for their scientific work which will undoubtedly contribute to the development of the branch of knowledge in which he works; and 2) knowledge of the sources necessary for his professional work, which is by nature informative.

Therefore if we consider Documentation as the general science and technique of scientific information and in this case as the science and technique of the sources of scientific information in social communication, and of the work of professionals in social communication, we can conclude that the subject Documentation in this Faculty should offer as its objective the training of:

1) Scientific Information Specialists with a knowledge of the bases of the organization of the activity of general scientific information, prepared at the beginning for specialization in a particular branch of the subject.
2) Scientific Information Specialists in the sciences of social communication with a knowledge of the techniques of scientific work for their own research, capable of running-documentation centres whose subject is social communication.
3) Information Specialists with a knowledge of techniques of professional work and capable of organizing centres of documentation of general information at level suitable for firms dealing in mass-communication.

The necessity to consider these questions is vital. If the first two points can be applied in great part to today's university studies, the third is an integral part of the professional work of anyone dealing with social information as he obviously needs to use all types of sources of information. In this field, our firms dealing in mass-communication don't have in general a strong tradition although we must recognize that interest in these subjects is growing day by day (32).

NOTES

1) The latest work on terminology is that of WERSIG, Gernot y NEVELING, Ulrich. Terminology of Documentation. A selection of 1.200 basic terms published in English, French, German, Russian and Spanish. Paris, The Unesco Press, 1976, 272 p.

2) Information about this Committee and its main aims in FID. Statutes, Rules of Procedure, Terms of Reference. The Hague, International Federation of Documentation, march, 1974, p. 41.

3) FID. International Conference on Education for Scientific Information work. London, 3-7 april 1967 (Proceedings). The Hague, FID, 1967, XI, 270 p. - FID. International Conference on Training for Information Work. Rome, 15th-19th November 1971. The Proceedings. Edited by G. Lubbock. Rome and The Hague, Italian National Information-Institut and International Federation for Documentation, 1972, 510 p. - FID/COMMITTEE EDUCATION AND TRAINING. Proceedings of the International Seminar on Education in Information Science. Veszprém, Hungary, 14-16th September 1972. Budapest, Hungarian Technical Library and Documentation Centre (OMKDK-TECHNOINFORM), 1974, 189 p.

4) MIKHAILOV, A.I. and GILJAREVSKIJ, R.S., An introductory course on informatic/documentation. The Hague, International Federation for Documentation, 1971, rev. and enlarged edition, 204 p. - VAN DER BRUGGHEN, W., Cours d'introduction à la documentation. Aide-mémoire synoptique. La Haye, Fédération Internationale de Documentation, 1972, 93 p. - IDEM. Syllabus for a documentation course. The Hague, International Federation for Documentation, 1975.

5) CENTRALNY INSTYTUT INFORMACJI NAVKOWO-TECHNICZNEJ I EKONONICZNEJ. A guide to the world's training facilities in documentation and information work. The Hague, FID, 1960, 2nd. ed., 294 p.

6) NIDER. Job description. Records management personnel. The Hague, 1967, 5 p. - NOBIN. Criteria for the training of records managers. The Hague, 1975, 12 p. - FID/COMMITTEE FOR DEVELOPING COUNTRIES. Guide to films on information. Budapest, 1973, 2nd. ed., rev., 83 p.

7) WARRENTON. (Virginia), September, 7-10, 1965. Proceedings ed. by L.B. Heibpriss, B.E. Marknson and F.L. Goodman. Sponsored by American Documentation Institut, Washington, D.C., Spartan Books, 1965, 175 p.

8) VICENTINI, Abner Lelis Correia. De la Biblioteconomía a la Informática. Evolución del concepto de documentación. Boletín de ANABA, XXI, núms. 3-4, 1974, pp. 142-143 y Bibliografía en pp. 150-169.

9) COHAN, L. and CRAVEN, K., Science Information personnel. The new profession on information combining science, librarianship and foreign language. New York, 1961, 74 p.

10) FARRADANE, J., Introducing technical information into present education curricula. Revue de Documentation, 28, núm. 2, 1961, pp. 41-45 and Standards in education in information science. ASLIB Proceedings, 21, núm. 1, 1969, pp. 32-36.

11) WINGER, H.W., Education for area studies librarianship. Library Quarterly, vol. 35, núm. 4, 1965, pp. 361-372.

12) HAYES, R.M., Data processing in the library school curriculum. ALA Bulletin 61 (6): pp. 662-669, 1967. And: The development of a methodology for system design and its role in library education. Library Quarterly 34: p. 340, 1964.

13) WASSERMAN, P., The library and information profession in a time of change. PNLA Quarterly, vol. 31, núm. 2, 1967, pp. 134-135.

14) SABOR, J.E., Métodos de enseñanza de la bibliotecología. Paris, Unesco, 1968, 46 p.

15) REES, A.M., The impact of computer technology on library education. Unesco, Bulletin for libraries, vol. 23, núm. 1, 1969, pp. 25-29.

16) PIETSCH, Erich, Ausbildung und Berufsbild des Dokumentars. Versuch einer Querschnittsbetrachtung. Frankfurt/M. 1965, 192 p. In Spanish: "Formación y aspectos profesiones del documentalista". "Intento de un examen panorámico". In "Técnicas modernas de documentación". Madrid, Centro de Información y Documentación del Patronato de Investigación Científica y Técnica "Juan de la Cierva", (C.S.I.C.), 1966, pp. 125-210. This work is based on those of Bonn (1962), Dison y Farradane (1962), Kyle (1962) and Weinberg (1963), and adds a bibliography on problems in training and three appendixes: I. Tables showing the different types of teaching in each country; II. an evaluation of the programmes of studies based on data includes in the bibliography mentioned in the following Appendix; III. a list of the institution and higher education centres (in order of countries) with bibliographic data on the teaching programms and references.

17) GARZA MERCADO, Ario, Las Ciencias de la Información en la Escuela de Bibliotecología. Boletín de ANABA, XXIV, núm. 2, enero-junio, 1974, pp. 61-86.

18) KLEMPNER, I.M., Unified curriculum for information science. College and Research Libraries, vol. 30, núm. 4, july, 1969, pp. 335-341.

19) ARTANDI, Susan, The relevance of information science to the library school curricula. American Documentation, vol. 20, núm. 4, october, 1969, pp. 337-338.

20) HOYT, Ronald H., An analysis of information science programs. American Documentation, vol. 20, núm. 4, october 1969, pp. 358-361.

21) BELZER, J., Education in information science. Journal of the American Society for Information Science, vol. 21, núm. 4, july-august, 1970, pp. 269-273. - BELZER, J. and anothers, Curricula in information science: analysis and development. Idem, vol. 22, núm. 3, may-june, 1971, pp. 193-223.

22) WYLLYS, R.E., Is information retrieval now an established scientific discipline? Santa Monica, System Development Corporation, 1964, 25 p. Presented at the Nineteenth National Conference of the Association for Computing Machinery, Philadelphia, Pennsylvania, august, 1964.

23) SANCHEZ BELDA, Luis, El Documentalismo: cuestiones de principio. Boletín de la Dirección General de Archivos y Bibliotecas, XI, núm. 65, mayo-junio, 1962, pp. 76-78.

24) LASSO DE LA VEGA Y JIMENEZ-PLACER, Javier, Manual de Documentación. Las técnicas de investigación y redacción de los trabajos científicos y de ingeniería. Barcelona, Edit. Labor, 1969, 829 p.

25) LASSO DE LA VEGA Y JIMENEZ-PLACER, Javier, Las bibliotecas y la documentación en el desarrollo técnico y científico. Ponencia presentada al II Congreso Nacional de Bibliotecas (Gerona, 3-8 octubre 1966). En Actas y Ponencias del II Congreso Nacional de Bibliotecas. Madrid, Asociación Nacional de Bibliotecarios, Archiveros y Arquéologos, 1968, pp. 23-33.

26) New requirements and perspectives for professional of scientific documentation. Lecture to begin the academic year 1975-1976 of the School of Information Scientists of Madrid (Escuela de Documentalistas). Typed text, pp. 4-5.

27) Concerning this point, Emilia Curás in her "Documento-base para la formación y Status profesional de bibliotecarios", archiveros y documentalistas (Madrid, February, 1976 - typed text 18 ff.), quotes the centres for the training of librarians, archivists and information scientists: 1) School of Information Scientists (Escuela de Documentalistas); 2) Cathedra of Information Science (Cátedra de Documentación); 3) School of library (Escuela de Librería); 4) School of Professional and Social Formation (Escuela de Formación Profesional y Social); 5) International School of Boston (Escuela Internacional de Boston); 6) General-

School of the Civil Service (Escuela General de la Administración Pública) of Alcalá de Henares; 7) University School of Barcelona (Escuela Universitaria de Barcelona); 8) School of Librarians of the Navarra University (Escuela de Bibliotecarias de la Universidad de Navarra); 9) Curso Monográfico de Documentación e Informática Media (Universidad de Navarra); 10) Courses and Seminars organized by different business.

28) SIMON DIAZ, José, La Bibliografía: Conceptos y aplicaciones. Barcelona, Editorial Planeta, 1971, 331 p.

29) IDEM, La Bibliografía: Concepto y enseñanza. En op. cit., pp. 11-43.

30) Bases para una Bibliografía de las Ciencias de la Información. Paper presented at the "I Jornadas de Bibliografía organized by the Fundación Universitaria Española (Madrid, 24-26 may, 1976).

31) CORRAL, Milagros del, LOPEZ YEPES, José and CARRASCOSA, Luis, Information Science (Programme). Madrid, Complutense University, Facultad de Ciencias de la Información, year 1975-76, multicopied.

32) In a recent seminar on Documentation in Journalism, organized by the Fundación Juan March (Madrid, 31st may and 3rd June, 1976) and attended by Spanish and foreign specialists, subjects of great interest in the organization of Centres of Documentation in business, dealing with journalism and those related to the training and professional status of the directors of those centres, were discussed (ABC, 3rd June, 1976, p. 41).

List of participants

Adkonis, Florian: CIINTE, Warszawa, Poland

Alaez, Luis Ferreiro: Institute for Information and Documentation in Science and Technology (C.S.I.C.), Madrid, Spain

Alvarez-Ossino, J.R.P.: Institute for Information and Documentation in Science and Technology (C.S.I.C.), Madrid, Spain

Casedo, Maria Nieves: Centro de Documentation, Madrid, Spain

Castillejo, Arcadio: Biblioteca de la Universidad Autonome de Barcelona, Barcelona, Spain

Cerguella, Carlos: IRANOR, Madrid, Spain

del Corral, Milagros: Universidad Complutense de Madrid, Madrid, Spain

Cuesta, Maria Jesus: Comisaria Nacional de Bibliotecas, Madrid, Spain

Curras, Emilia: Universidad Autonoma, Madrid, Spain

Droog, Jan: Nobin, The Hague, Netherlands

Lopez Yepes, José: Universidad Complutense de Madrid, Madrid, Spain

Mendez-Miaja, Aida: Instituto de Productos Lacteos, Madrid, Spain

Meyriat, Jean: Fondation nationale des sciences politiques, Paris, France

Montalvo, Rosario Martin: Comisaria Nacional de Bibliotecas, Madrid, Spain

Munarriz, M.T.: Comisaria Nacional de Bibliotecas, Madrid, Spain

Ricart-Ribera, Rosa: President of the Barcelona Libraries Association, Barcelona, Spain

Rodriguez Delgado, Rafael: Instituto de Cultura Hispanica, Madrid, Spain

Sancho, Rosa: Institute for Information and Documentation in Science and Technology (C.S.I.C.), Madrid, Spain

Seeger, Thomas: Freie Universität Berlin, FRG

Spears, Kevin: Consejo Britanico - Seccion de Documentation, Madrid, Spain

Steszenko, Jerzy: CIINTE, Warszawa, Poland

Szentmihalyi, Janos: University of Budapest, Hungary

Torra Ferrer, David: Instituto de Información y Documentatión en Ciencias Sociales y Humanidades, Madrid, Spain

de la Viesca: Institute for Information and Documentation in Science and Technology (C.S.I.C.), Madrid, Spain

Wersig, Gernot: Freie Universität Berlin, FRG